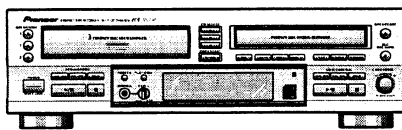


Service Manual

Pioneer



ORDER NO.
RRV2264

COMPACT DISC RECORDER / MULTI-CD CHANGER

PDR-W739

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PDR-W739		
KUXJ/CA	○	AC120V	
NYXJ	○	AC230V	
NVXJ	○	AC230V	

— FOR U.S. MODELS —

NECESSARY INFORMATION FOR DHHS
RULES MARKED ON THE REAR BASE AND ON
THE TOP OF CD MECHANISM AS BELOW.

DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

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T – IZK JAN. 2000

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

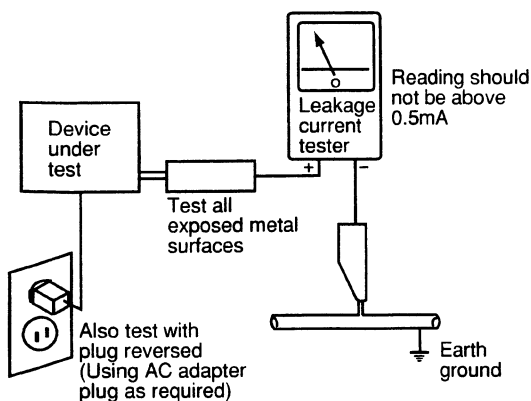
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

CD RECORDER**IMPORTANT**

THIS PIONEER APPARATUS CONTAINS
LASER OF CLASS IIIb.
SERVICING OPERATION OF THE APPARATUS
SHOULD BE DONE BY A SPECIALLY
INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

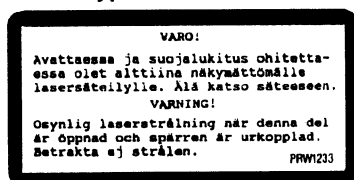
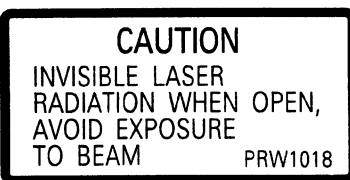
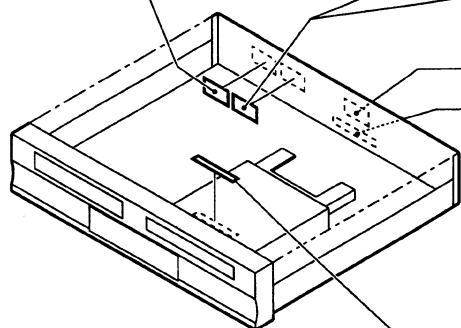
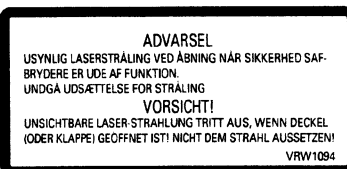
MAXIMUM OUTPUT POWER: 23 mW
WAVELENGTH: 778 - 787 nm

CD PLAYER**IMPORTANT**

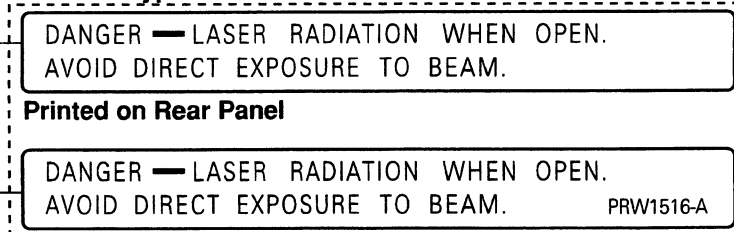
THIS PIONEER APPARATUS CONTAINS
LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS
SHOULD BE DONE BY A SPECIALLY
INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS

MAXIMUM OUTPUT POWER: 5 mW
WAVELENGTH: 760 - 800 nm

LABEL CHECK**NYXJ Type****NVXJ Type****NYXJ Type****NYXJ and NVXJ Types**

Printed on Rear Panel

KUXJ/CA Type**CD RECORDER****Additional Laser Caution**

- Laser Interlock Mechanism**
The position of the switch (S501) on the LOADING A Assy for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S501) is not on TRAY terminal side (TRAY signal is OFF or high level.). Thus, the interlock will no longer function if the switch (S501) is deliberately set to TRAY terminal side (low level). The interlock also does not function in the test mode *. Laser diode oscillation will continue, if pin 32 of CN101 on the CD-R CORE ASSY is connected to low level.
- When the cover is opened with the servo mechanism block removed and turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 64.

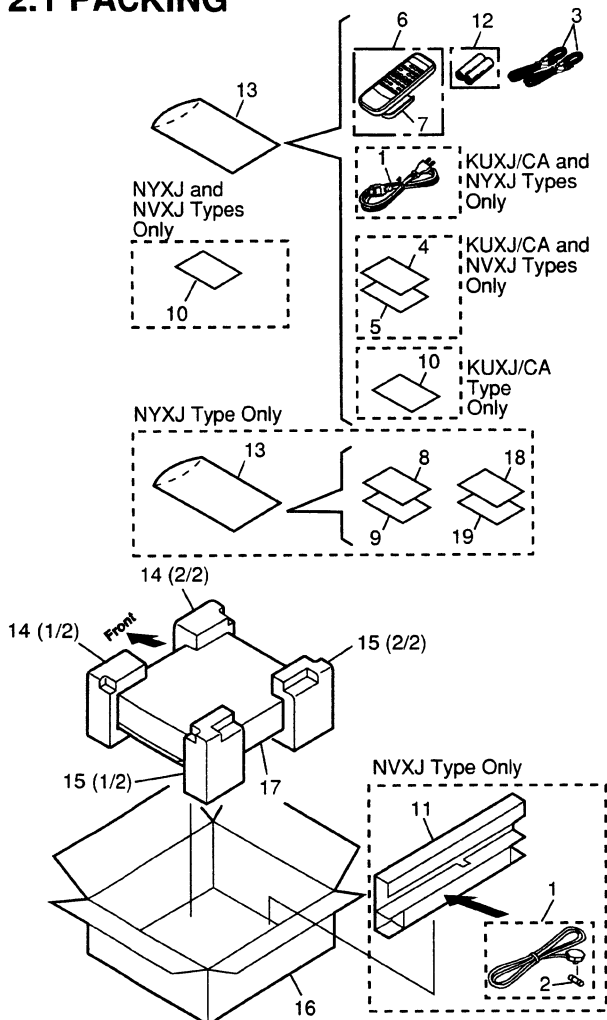
CD PLAYER**Additional Laser Caution**

- Laser Interlock Mechanism**
The position of the switch (S101) on the SERVO MECHANISM Assy for detecting loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when the switch (S101) is not on CLMP terminal side (CLMP signal is OFF or high level.). Thus, the interlock will no longer function if the switch (S101) is deliberately set to CLMP terminal side (low level). The interlock also does not function in the test mode *. Laser diode oscillation will continue, if pin 1 of CXA2570 (IC1101) on the MAIN ASSY is connected to GND, or pin 12 is connected to low level (ON), or else the terminals of Q1101 are shorted to each other (fault condition).
- When the cover is opened with the servo mechanism block removed and turned over, close viewing of the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 63.

● Screws adjacent to ▼ mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

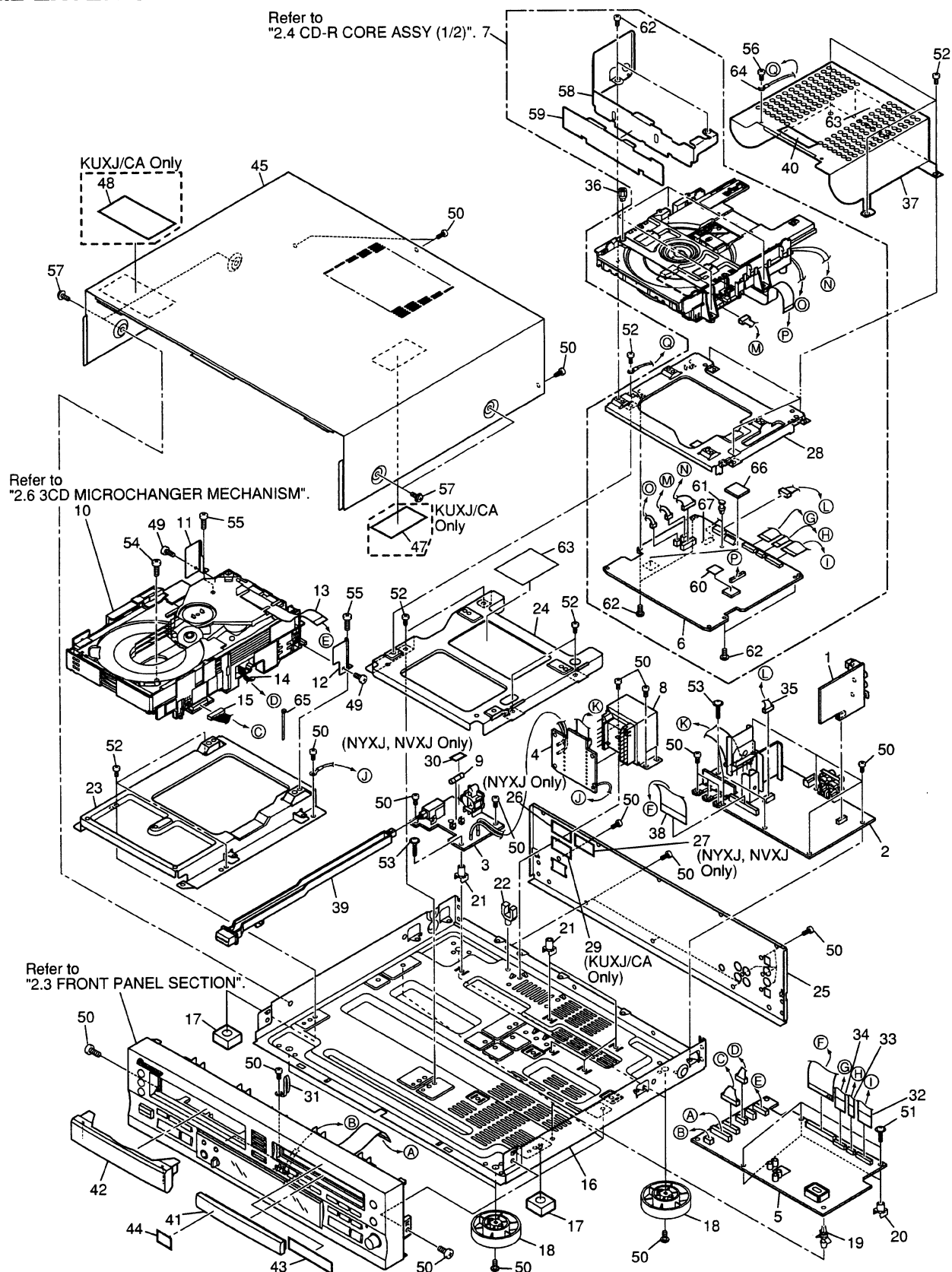
Mark	No.	Description	Part No.
△	1	AC Power Cord	See Contrast table (2)
	2	Fuse (T5A)	See Contrast table (2)
	3	Audio Cord	RDE1036
	4	Operating Instructions (English)	See Contrast table (2)
	5	Sub Manual (English)	See Contrast table (2)
	6	Remote Control Unit	PWW1164
	7	Battery Cover	RZN1156
	8	Operating Instructions (German/Italian)	See Contrast table (2)
NSP	9	Operating Instructions (Dutch/Swedish)	See Contrast table (2)
	10	Warranty Card	See Contrast table (2)
NSP	11	V Spacer	See Contrast table (2)
	12	Dry Cell Battery (R6P, AA)	VEM-013
	13	Polyethylene Bag (230 × 340 × 0.03)	Z21-038
	14	Protector F	PHA1344
	15	Protector R	PHA1345
	16	Packing Case	See Contrast table (2)
	17	Mirror Mat Sheet (750 × 600 × 0.5)	Z23-007
	18	Operating Instructions (Spanish/Danish)	See Contrast table (2)
	19	Operating Instructions (English/French)	See Contrast table (2)

(2) CONTRAST TABLE

PDR-W739/KUXJ/CA, NYXJ and NVXJ Types are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			KUXJ/CA Type	NYXJ Type	NVXJ Type	
△ △ NSP	1	AC Power Cord	ADG7022	ADG1154	ADG1156	
	2	Fuse (T5A)	Not used	Not used	AEK1046	
	4	Operating Instructions (English)	PRB1295	Not used	PRB1295	
	5	Sub Manual (English)	PRB1303	Not used	PRB1303	
	8	Operating Instructions (German/Italian)	Not used	PRD1054	Not used	
	9	Operating Instructions (Dutch/Swedish)	Not used	PRD1055	Not used	
	10	Warranty Card	ARY7045	ARY7022	ARY7022	
	11	V Spacer	Not used	Not used	PHC1094	
	16	Packing Case	PHG2389	PHG2390	PHG2402	
	18	Operating Instructions (Spanish/Danish)	Not used	PRD1056	Not used	
	19	Operating Instructions (English/French)	Not used	PRE1285	Not used	

2.2 EXTERIOR SECTION



KUXJ/CA Only

Refer to
"2 6 3CD MICROCHANGER MECHANISM".



KUXJ/CA
Only

(NYXJ, NVXJ Only)

(NYX Only)

27
(NYXJ,
50 Only)

Refer to
"2.3 FRONT PANEL SECTION".

(KUX.
Only)

(1) EXTERIOR SECTION PARTS LIST

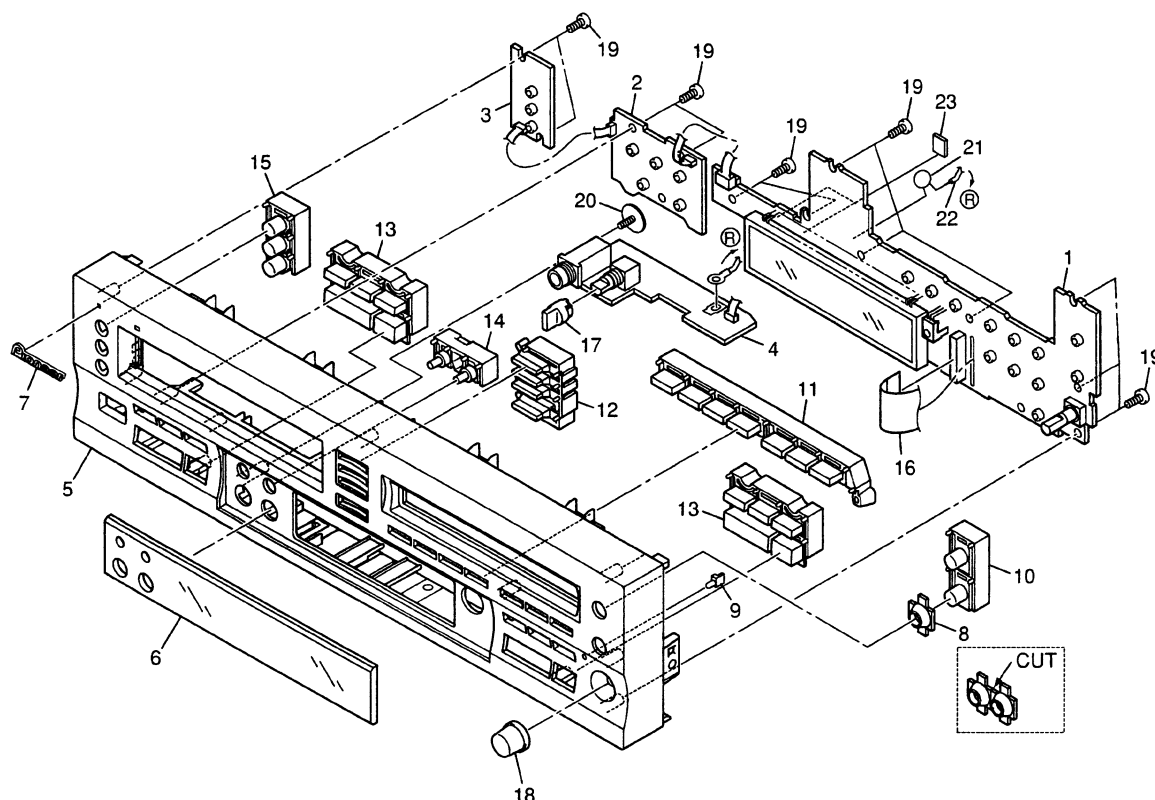
Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	OPT I/O Assy	PWZ4072		36	PCB Spacer	PNY-404
	2	POWER SUPPLY Assy	See Contrast table (2)	NSP	37	Shield Case	PNB1622
	3	PRIMARY Assy	See Contrast table (2)		38	32P FFC/60V	PDD1204
	4	TRANS Assy	See Contrast table (2)		39	Power Button	PAC1978
	5	MAIN Assy	See Contrast table (2)	NSP	40	Laser Caution Label	See Contrast table (2)
	6	CD-R CORE Assy	PYY1279		41	Tray Panel R	PNW2935
NSP	7	CD-R CORE Assy	PXA1630		42	Tray Panel C	PNW2936
Δ	8	Power Transformer	See Contrast table (2)		43	Getter Label W739KU	PRW1542
Δ	9	Fuse (FU1)	See Contrast table (2)		44	CDR Getter Label	PRW1547
NSP	10	3CD Microchanger Mechanism	AXA7077		45	Bonnet	PYY1278
	11	Supporter L	ANG7290		46	*****	
	12	Supporter R	ANG7291		47	65 Label	See Contrast table (2)
	13	16P FFC/30	PDD1209		48	Disc Caution Label	See Contrast table (2)
	14	Connector Assy 6P	PDE1308		49	Screw	IPZ30P060FMC
	15	Connector Assy	PG11KK-E12		50	Screw	BBZ30P080FZK
NSP	16	Under Base	PNA2518		51	Screw	IBZ30P150FMC
	17	Disc Guard	PNM1245		52	Screw	ABA1207
	18	Insulator	PNW2766		53	Screw	IBZ30P180FMC
	19	PCB Supports	AEC7132		54	Screw	IBZ30P080FMC
	20	PCB Mold	AMR2534		55	Screw	PBZ30P100FMC
NSP	21	PCB Mold	AMR2533		56	Screw	IPZ30P120FMC
	22	Wire Clip	VEC1181		57	Screw	FBT40P080FZK
NSP	23	Mecha Base C	PNB1617	NSP	58	Shield Plate	PNB1621
NSP	24	Mecha Base R	PNB1616	NSP	59	Cover	PNM1348
	25	Rear Base	See Contrast table (2)		60	Radiation Seat	PEB1306
	26	Caution Label HE	See Contrast table (2)		61	PCB Spacer	AEC1371
	27	Caution Label	See Contrast table (2)		62	Screw	BBZ30P080FCC
NSP	28	Mecha Base	PNB1613	NSP	63	Insulating Seal	PNM1350
NSP	29	Fuse Caution Label	See Contrast table (2)		64	Earth Lead Unit	PDF1203
	30	Fuse Label	See Contrast table (2)		65	Binder	ZCA-SKB90BK
NSP	31	Cord Stopper	DNF1128		66	IC	PYY1196
	32	21P FFC/30V	PDD1206		67	Carbon Film Resistor	RD1/4PU101J
	33	8P FFC/30V	PDD1207				
	34	15P FFC/30V	PDD1208				
	35	Connector Assy	PG06KK2E15				

(2) CONTRAST TABLE

PDR-W739/KUXJ/CA, NYXJ and NVXJ Types are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			KUXJ/CA Type	NYXJ Type	NVXJ Type	
	2	POWER SUPPLY Assy	PWZ4068	PWZ4083	PWZ4083	
	3	PRIMARY Assy	PWZ4069	PWZ4084	PWZ4084	
	4	TRANS Assy	PWZ4070	PWZ4087	PWZ4087	
	5	MAIN Assy	PWX1618	PWX1619	PWX1619	
Δ	8	Power Transformer	PTT1363	PTT1364	PTT1364	
	9	Fuse (FU1 : 1A)	REK1075	Not used	Not used	
Δ	9	Fuse (FU1 : 500m/AL250V)	Not used	REK1019	REK1019	
NSP	25	Rear Base 739KU	PNA2520	Not used	Not used	
NSP	25	Rear Base 739NY	Not used	PNA2521	PNA2521	
	26	Caution Label HE	Not used	PRW1233	Not used	
	27	Caution Label	Not used	VRW1094	PRW1018	
NSP	29	Fuse Caution Label	VRW-548	Not used	Not used	
	30	Fuse Label	Not used	PRW1566	PRW1566	
NSP	40	Laser Caution Label	PRW1516	Not used	Not used	
	47	65 Label	ARW7050	Not used	Not used	
	48	Disc Caution Label	PRW1551	Not used	Not used	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	OPERATING 1 Assy	See Contrast table (2)		11	Mode Button	PAC1981
	2	OPERATING 2 Assy	PWZ4066		12	Self-lighted Button	PAC1997
	3	OPERATING 3 Assy	PWZ4067		13	PLAY Button	PAC1979
	4	HEADPHONE Assy	PWZ4071		14	RANDOM Button	PAC1996
	5	Front Panel	See Contrast table (2)		15	O/C Button	PAC1982
	6	Display Window	See Contrast table (2)		16	20P FFC/60V	PDD1205
	7	Name Plate	PAM1776		17	HEADPHONE Knob	PAC1707
	8	REC Ring	PNW2795		18	JOG Knob D508	PAC1939
	9	LED Lens	PNW2745		19	Screw	PPZ30P080FMC
	10	Operation Button	PAC1980		20	Screw	ABA7009
					21	Ceramic Capacitor	CKCYB471K50
					22	Earth Lead Unit	PDF1205
					23	Spacer	VEC-244

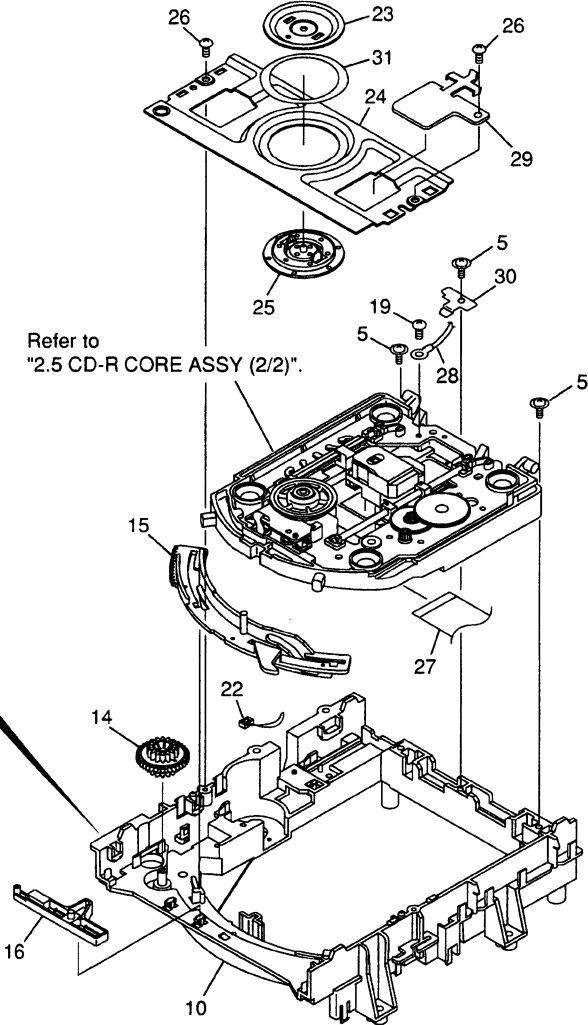
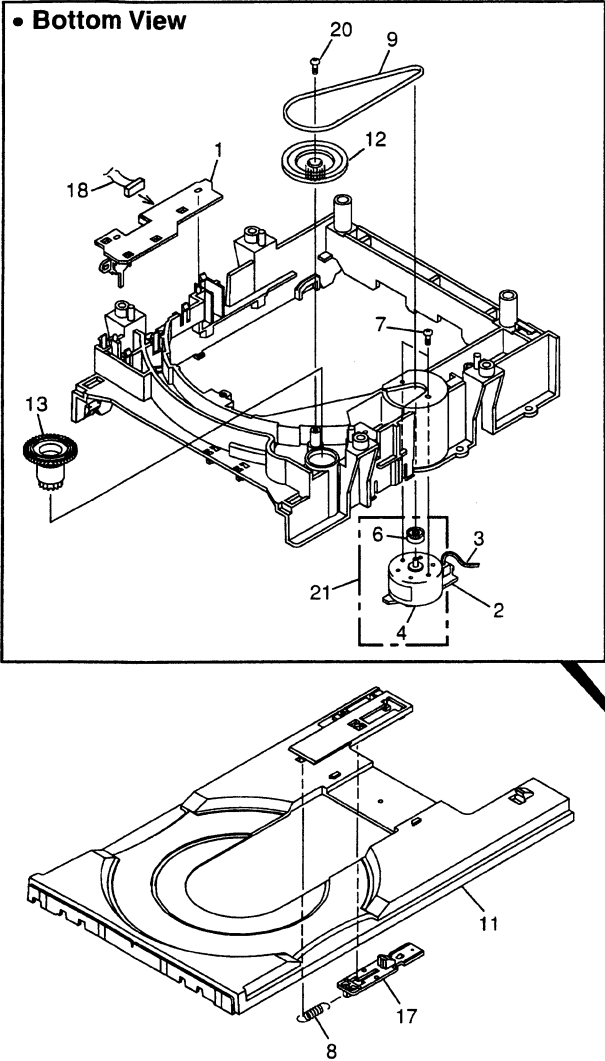
NSP

(2) CONTRAST TABLE

PDR-W739/KUXJ/CA, NYXJ and NVXJ Types are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			KUXJ/CA Type	NYXJ Type	NVXJ Type	
	1	OPERATING 1 Assy	PWZ4065	PWZ4073	PWZ4073	
	5	Front Panel 739KU	PNW2934	Not used	Not used	
	5	Front Panel 739NY	Not used	PNW2940	PNW2940	
	6	Display Window Orange	PAM1806	Not used	Not used	
	6	Display Window White	Not used	PAM1807	PAM1807	

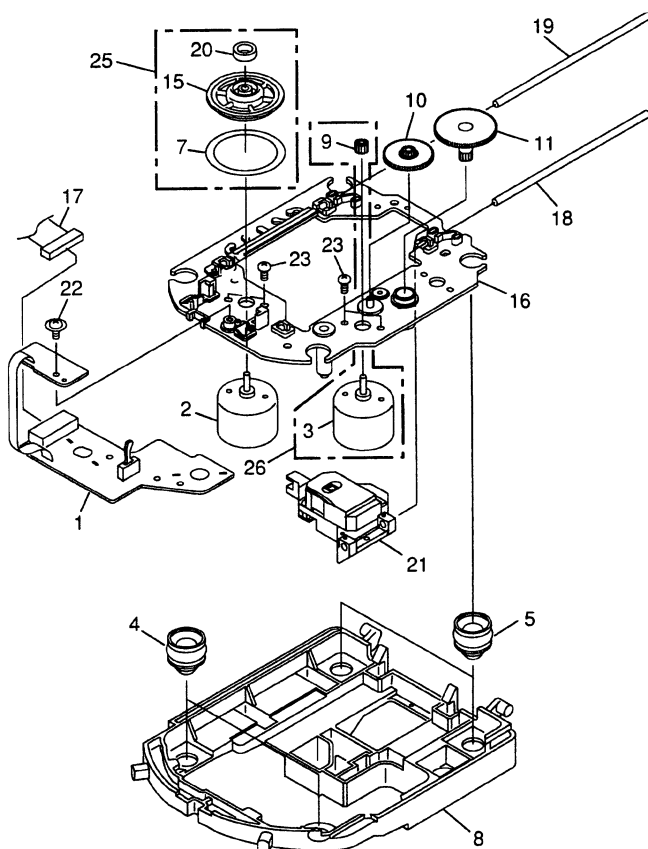
2.4 CD-R CORE ASSY (1/2)



• CD-R CORE ASSY(1/2) PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	LOADING A Assy	PWZ3760		17	Tray Stopper	VNL1739
NSP	2	LOADING B Assy	PWZ3761		18	Connector Assy	PG03KK-E37
	3	Connector Assy (LOADING B CN551 ↔ CD-R CORE CN453)	PG02KK-E15			(LOADING A CN501 ↔ CD-R CORE CN451)	
	4	DC Motor (LOADING)	PXM1027		19	Screw	BBZ26P040FMC
					20	Screw	Z39-019
	5	TS Screw	VBA1065		21	Loading Motor Assy	VXX2505
	6	Motor Pulley	PNW1634		22	Binder	ZCA-T18S
	7	Screw	VBA1055		23	Clamper Plate	VNE2068
	8	Tray Stopper Spring	VBH1277		24	Bridge	VNE2069
	9	Rubber Belt	VEB1260		25	Clamper	VNL1738
	10	Loading Base	VNL1854		26	Screw	IPZ26P060FMC
	11	Tray	VNK4570		27	32P Flexible Cable / 30V	PDD1195
	12	Gear Pulley	VNL1733			(CD-R Pickup ` CD-R CORE CN101)	
	13	Loading Gear	VNL1734	NSP	28	Earth Lead Unit	PDF1204
	14	Drive Gear	VNL1735		29	Tray Holder	PNM1346
					30	Stopper	DNH2076
	15	Drive Cam	VNL1736				
	16	Lock Plate	VNL1820		31	Spacer	PNM1334

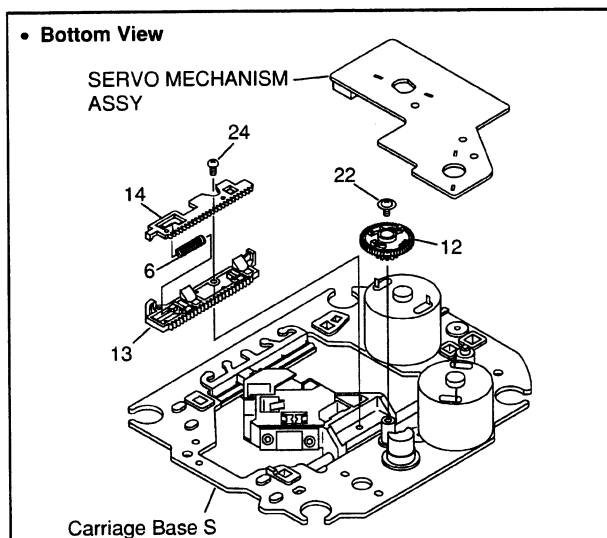
2.5 CD-R CORE ASSY (2/2)



● CD-R CORE ASSY(2/2) PARTS LIST

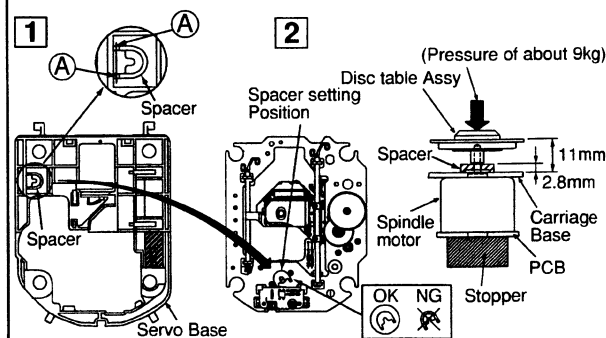
Mark	No.	Description	Part No.
NSP	1	SERVO MECHANISM Assy	PWZ3759
	2	DC Motor Assy (SPINDLE)	PEA1235
NSP	3	DC Motor (CARRIAGE)	PXM1042
	4	Float Rubber A	VEB1301
	5	Float Rubber B	AEB7066
NSP	6	Rack Spring	DBH1285
NSP	7	Reflection Sheet	PNM1325
	8	Servo Base	PNW2853
	9	Pinion Gear	PNW2854
	10	Gear A	PNW2855
	11	Gear B	PNW2856
	12	Gear C	PNW2857
	13	Rack	PNW2858
	14	Rack Stopper	PNW2859
NSP	15	Disc Table	PNW2860
	16	Carriage Base S	PNW2874
	17	Connector Assy (SERVO MECHANISM CN601 ← CD-R CORE CN452)	PG09KK-E17
	18	Guide Bar	VLL1488
	19	Sub Guide Bar	VLL1489
NSP	20	Magnet	VYM1024
	21	CD-R Pickup	PEA1352
	22	Screw	Z39-018
	23	Screw	PMZ20P030FMC
	24	Screw	JGZ17P030FMC
	25	Disc Table Assy	PEA1349
	26	Carriage Motor Assy	PEA1350

● Bottom View



● How to Install the Disc Table

- 1 Use nippers or other tool to cut the two sections marked (A) in figure 1.
- 2 While supporting the spindle motor shaft with the stopper, put spacer on top of the carriage base, and stick the disc table on top (takes about 9kg pressure). Take off the spacer.



*2 : Dyefree (ME-413A)

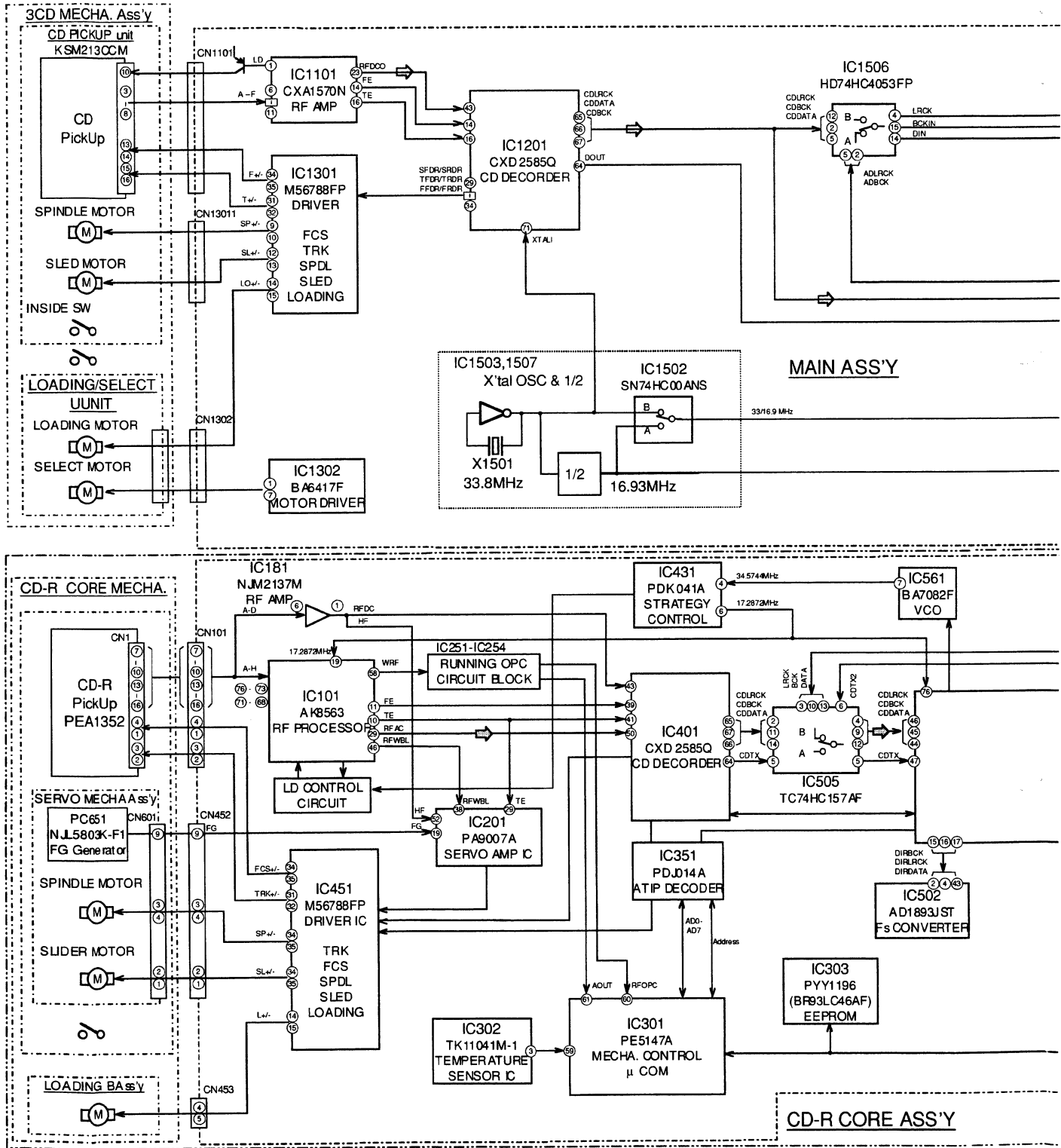


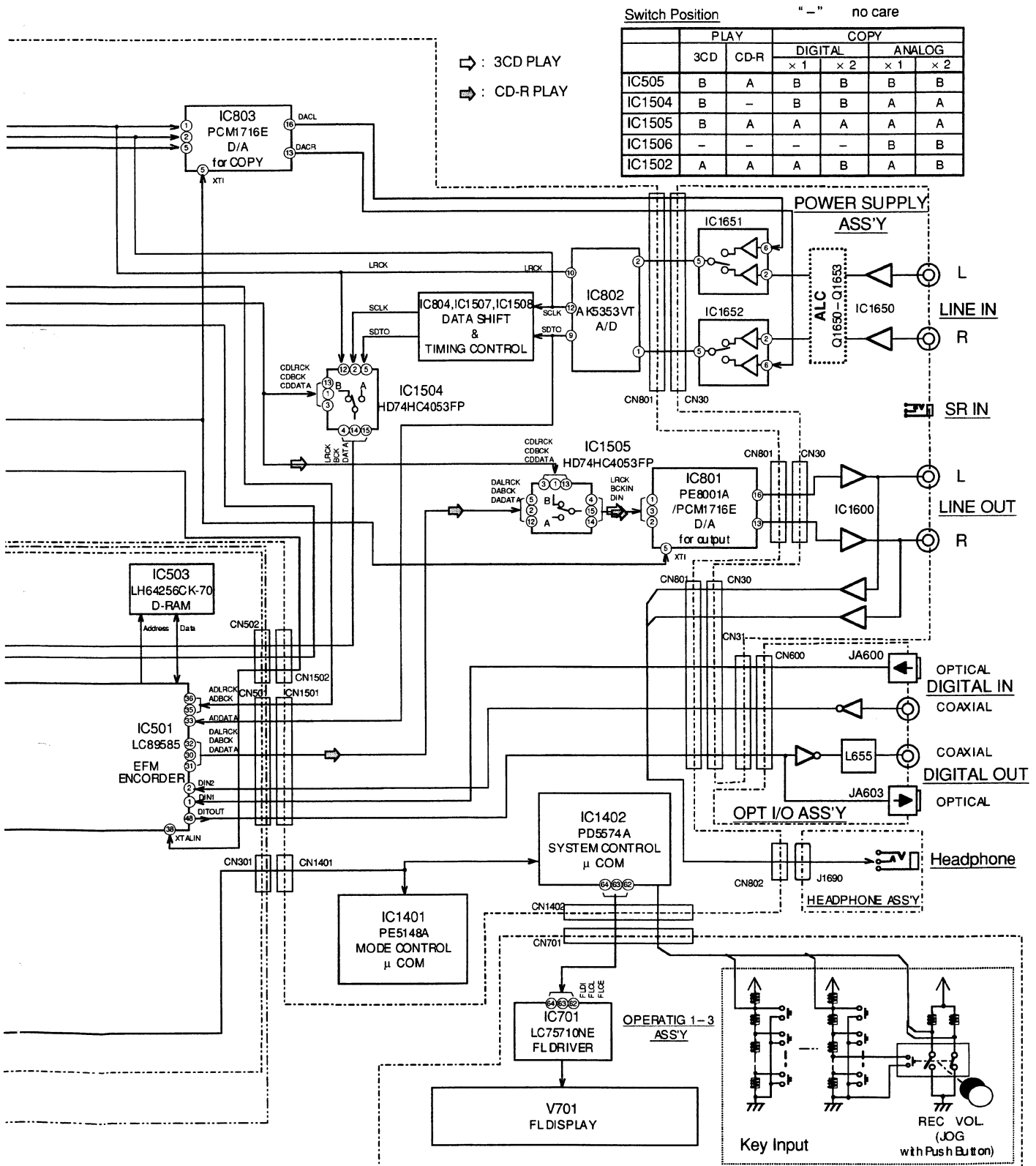
● 3CD MICROCHANGER MECHANISM PARTS LIST

Mark	No.	Description	Part No.
	1	MOTOR Unit	AWU7431
	2	LOADING Unit	AWU7432
	3	SELECT Unit	AWU7433
	4	PICKUP Unit	KSM213CCM
	5	Slider Motor	VXM1033
	6	Mecha Base	ANW7129
	7	Motor Pulley	PNW1634
	8	Lift Spring	ABH7173
	9	Home Lever	ANW7153
	10	HL Spring	ABH7182
	11	Extended Gear A	ANW7138
	12	Gear A	ANW7136
	13	Extended Gear B	ANW7139
	14	Gear B	ANW7137
	15	Gear Pully	ANW7135
	16	Select Lever	ANW7143
	17	EV Camgear	ANW7140
	18	Belt	AEB7159
	19	Elevator Base	ANW7132
	20	Tray Guide	ANW7150
	21	TG Stopper	ANW7151
	22	TG Spring	ABH7175
	23	Cam Plate	ANW7147
	24	Lock Lever	ANW7148
	25	Float Rubber A (Blue)	AEB7063
	26	Float Rubber B (Black)	AEB7066
	27	Float Base	ANW7130
	28	Clamper Holder	ANW7152
	29	Yoke	ANG7257
	30	Clamper Magnet	AMF7001
	31	Clamper SO	XNW3007
	32	Swing Base	ANW7131
	33	Main Tray	ANW7133
	34	Lock Plate	ANW7144
	35	Lock Plate Spring	ABH7174
	36	SUB Tray	ANW7134
	37	Tray Label	ARW7070
	38	Stopper Arm	ANW7145
	39	gear Shaft	ANW7142
	40	Loading Gear	ANW7141
	41	Elevator	ANW7207
	42	Elevator Cover	ANW7206
NSP	43	MB Spacer	AEC7259
NSP	44	MB3 Spacer	AEC7263
	45	Loading Gear 2	ANW7195

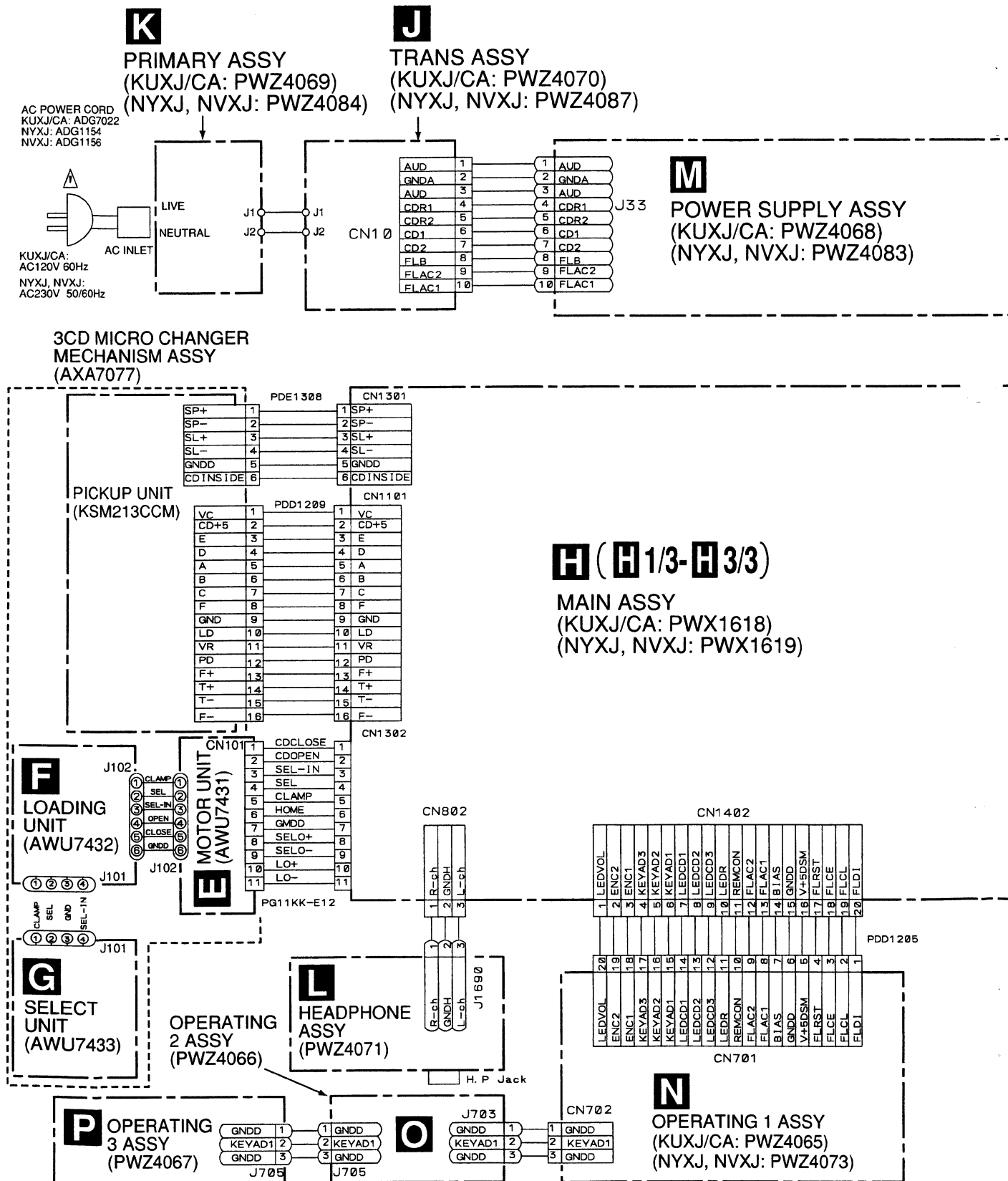
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM





3.2 OVERALL WIRING DIAGRAM



3.3 CD-R CORE ASSY (1/5)

A1/5 CD-R CORE ASSY (PYY1279)
• MECHA. CONTROL μ COM BLOCK

A5/5

PS16005
DECODER

NOTES

ALL CAPACITORS ARE IN μ F

CH : CCSQCH

YF : CKSQYF

YB : CKSQYB

SL : CCSQSL

TS : CEAL-TS

ALL RESISTORS ARE IN Ω

RS1/10S***J-T

OTHERS

↓ CHASSIS GND
GND5

A4/5

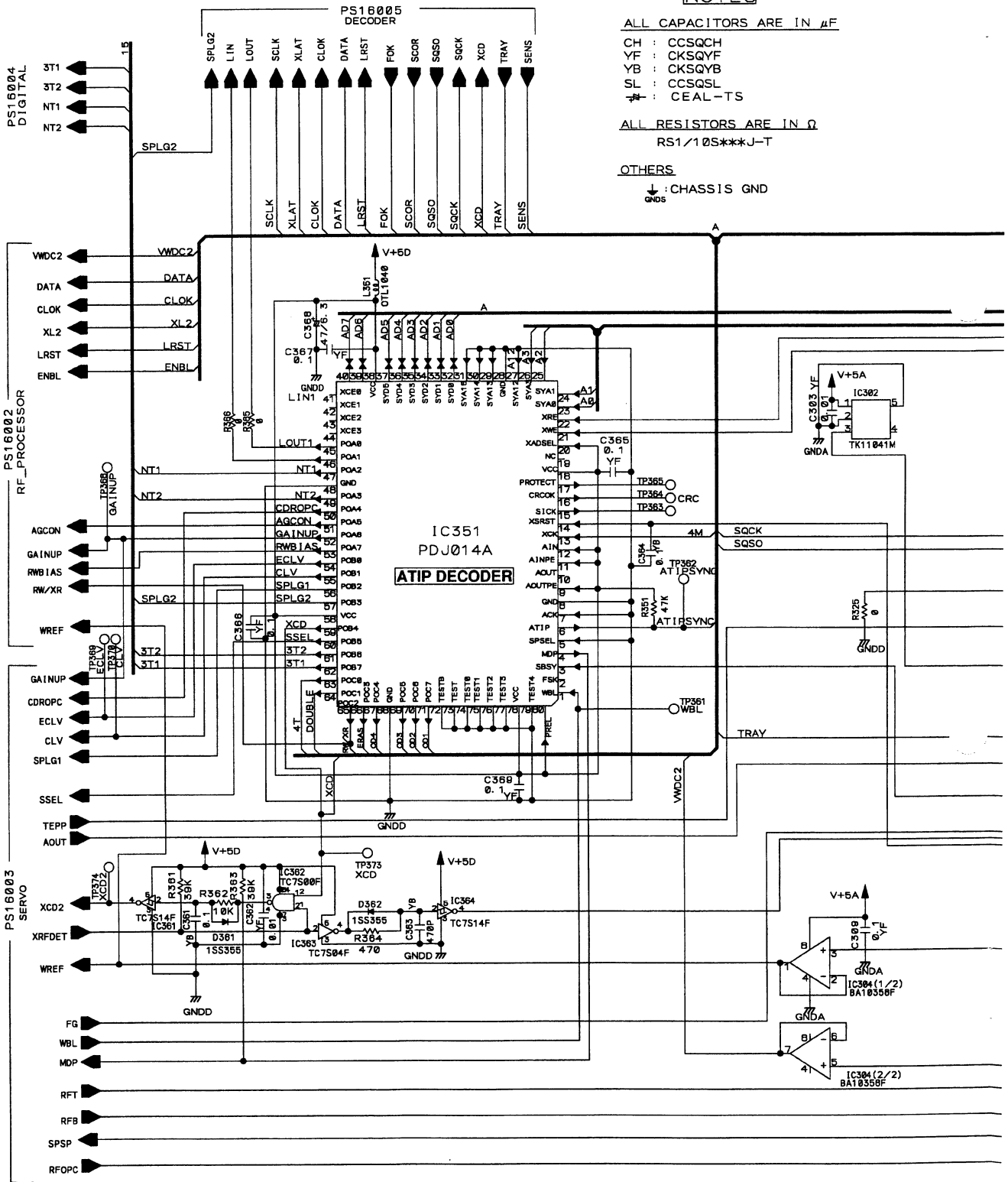
PS16004
DIGITAL

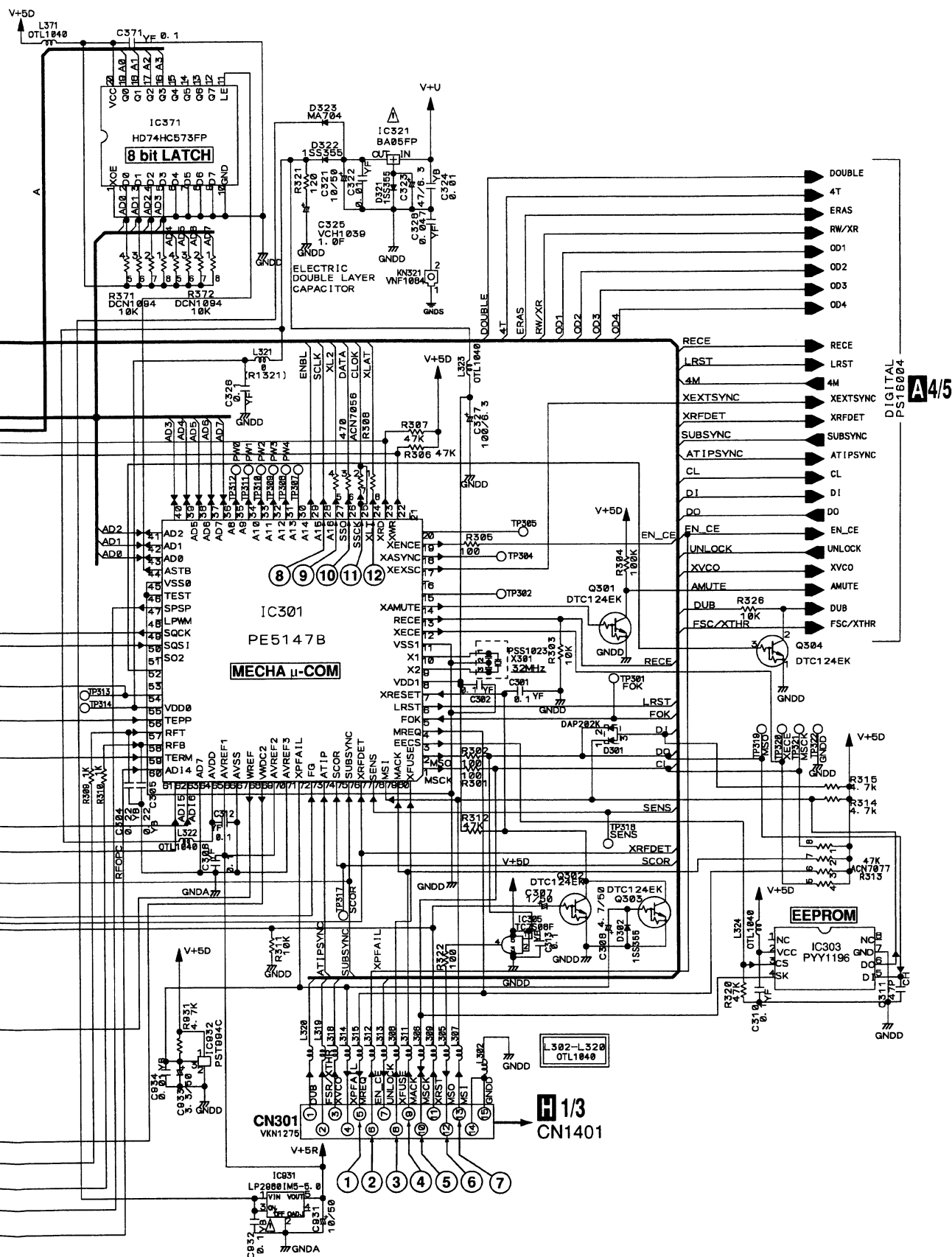
A2/5

PS16002
RF_PROCESSOR

A3/5

PS16003
SERVO





3.4 CD-R CORE ASSY (2/5) and CD-R PICKUP

NOTES

ALL CAPACITORS ARE IN μF

CH : CCSQCH
YF : CKSQYF
YB : CKSQYB
SL : CCSQSL
TS : CEAL-TS

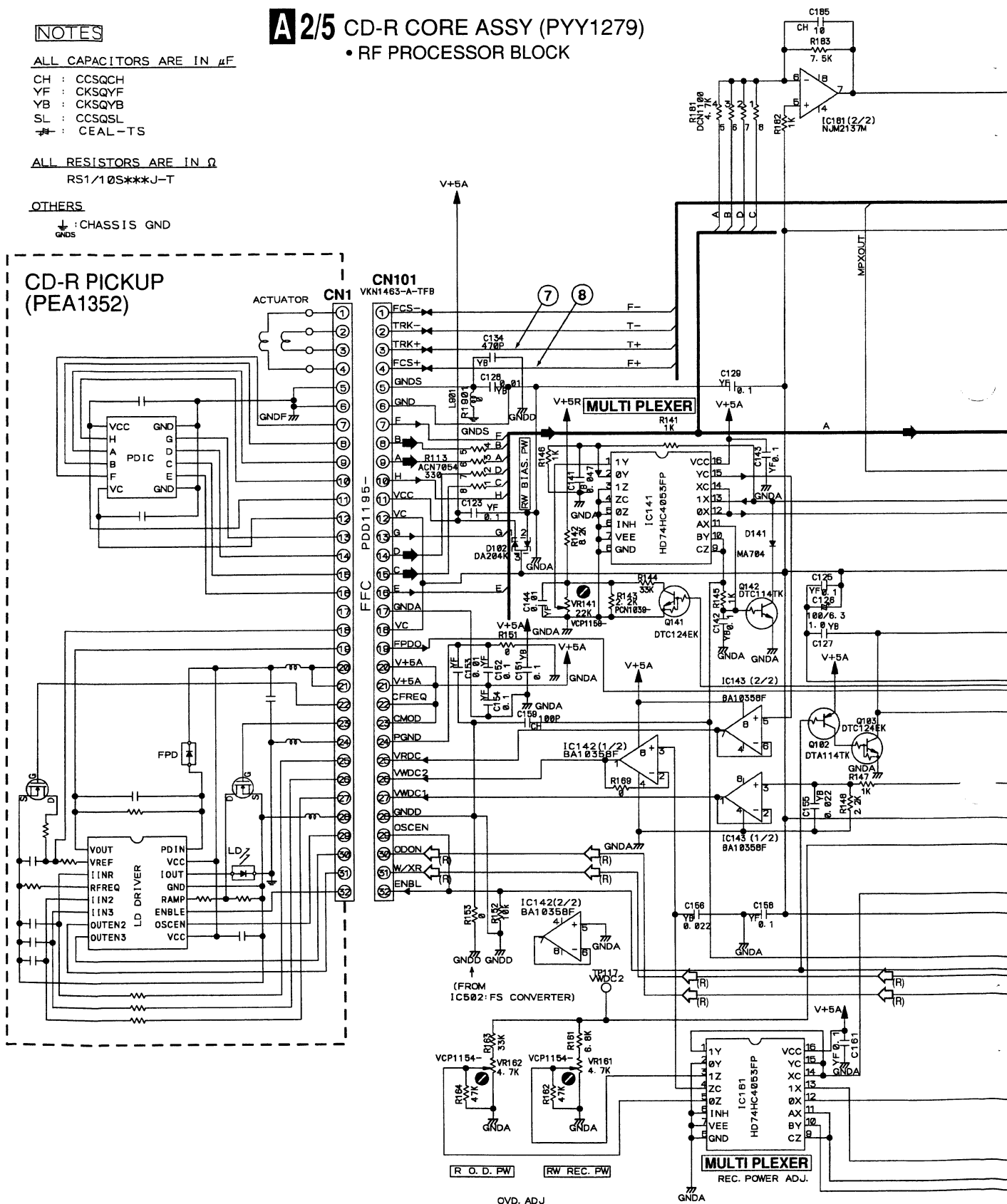
ALL RESISTORS ARE IN Ω
RS1/10S***J-T

OTHERS

↓ : CHASSIS GND
GND

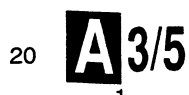
A 2/5 CD-R CORE ASSY (PYY1279)

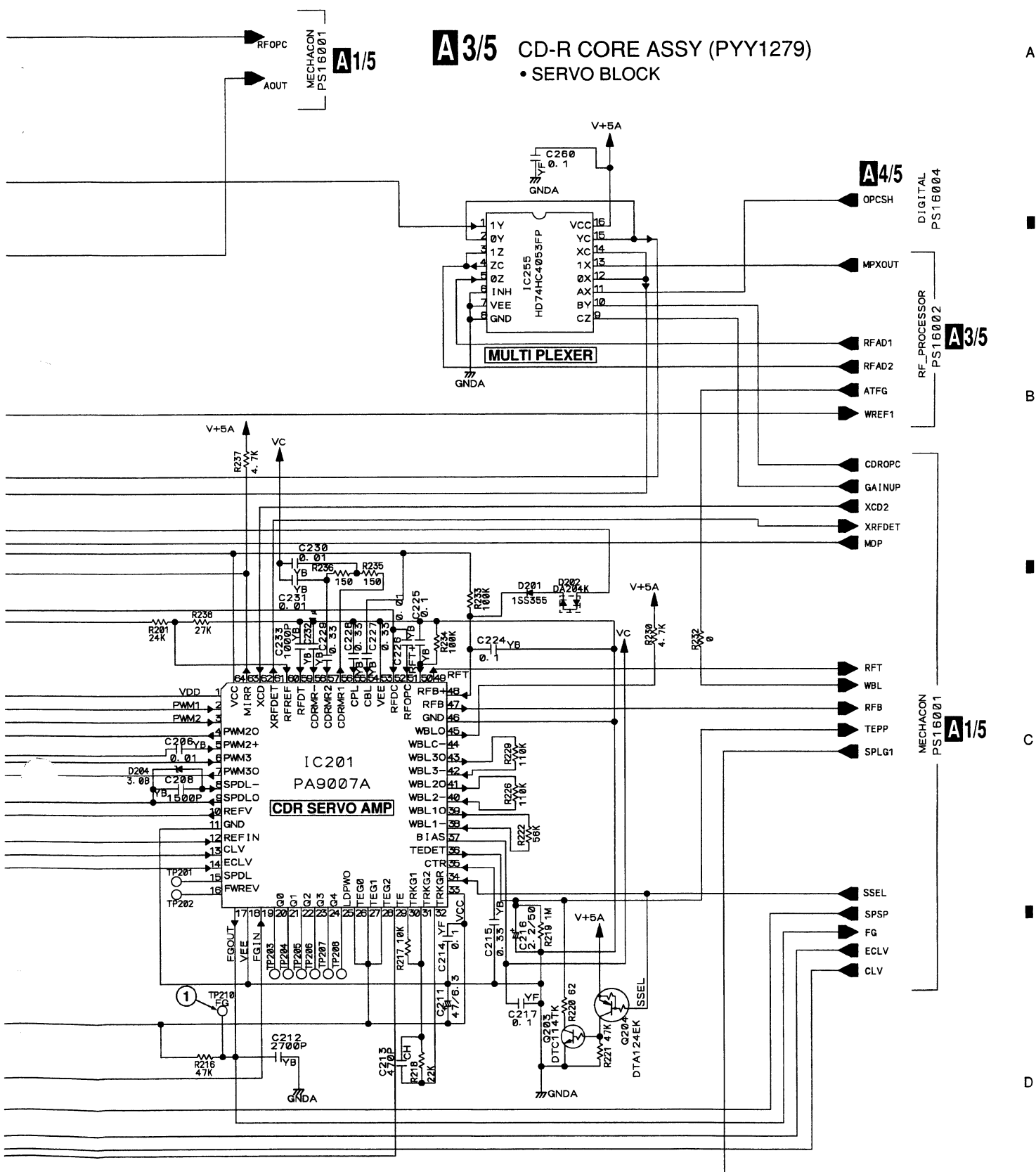
• RF PROCESSOR BLOCK





➡ : RF SIGNAL ROUTE
(R) ➡ : AUDIO SIGNAL ROUTE (REC)

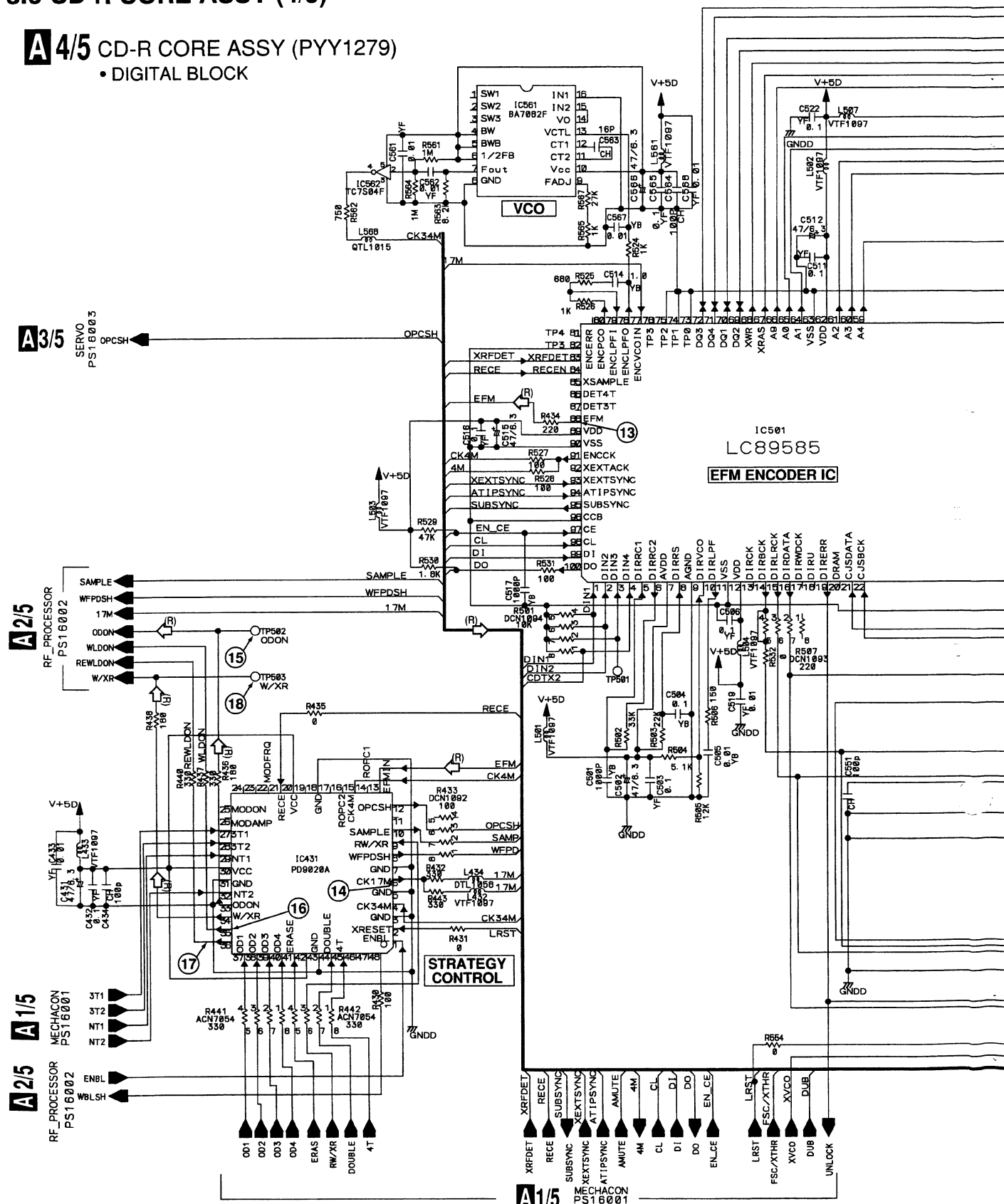


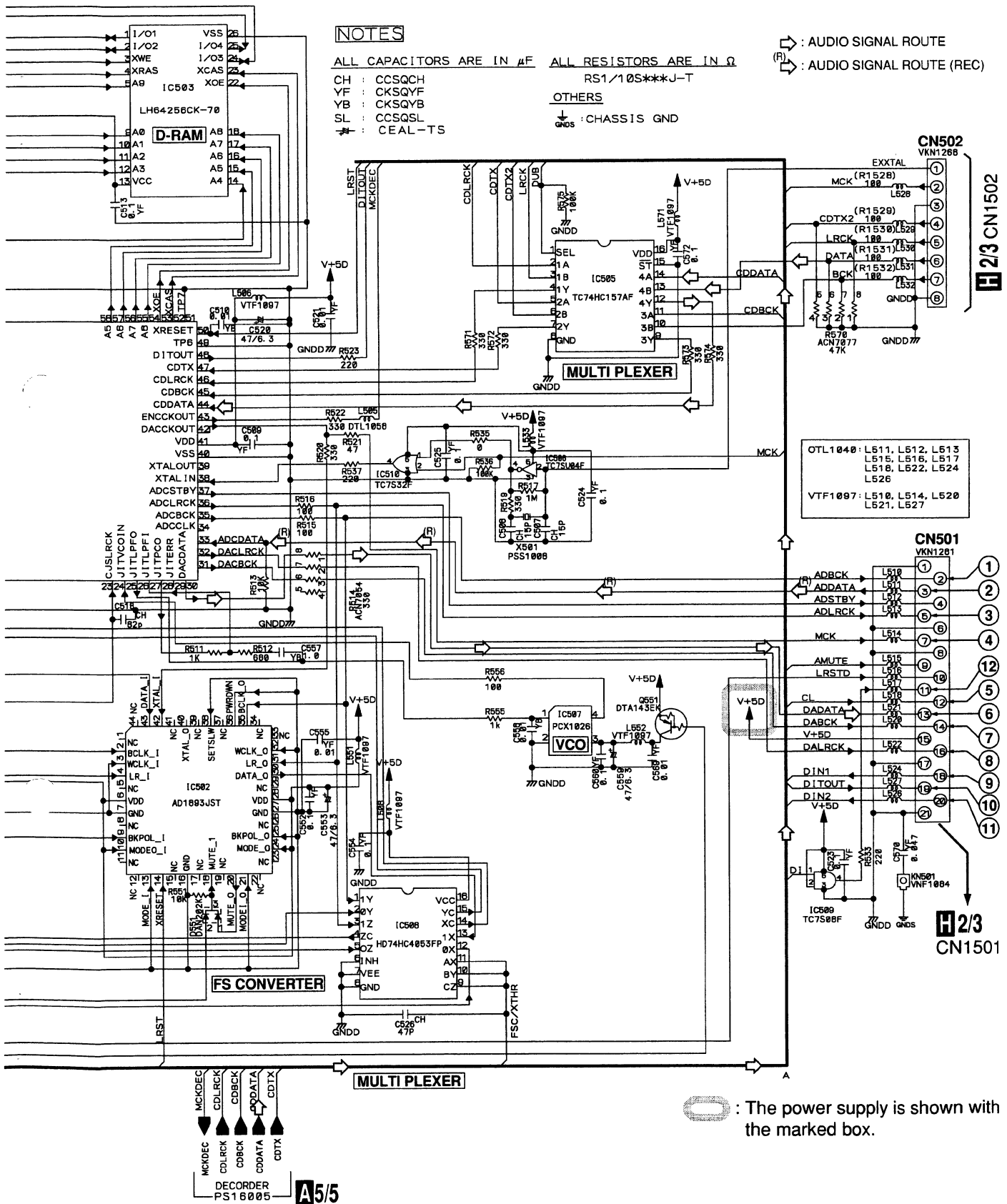


3.6 CD-R CORE ASSY (4/5)

A4/5 CD-R CORE ASSY (PYY1279)

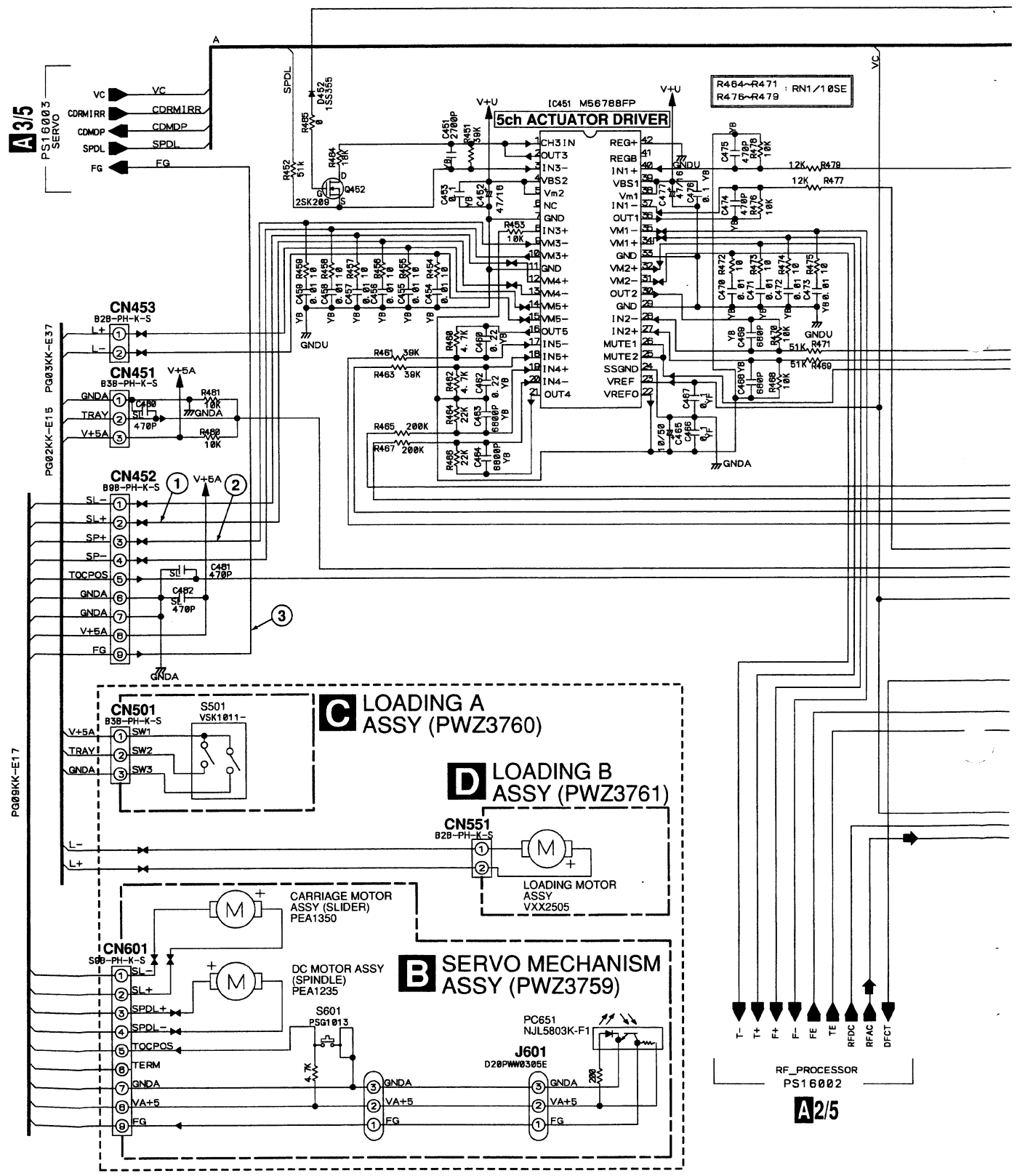
- DIGITAL BLOCK





3.7 CD-R CORE (5/5), SERVO MECHANISM, LOADING A and LOADING B ASSYS

A5/5 CD-R CORE ASSY (PYY1279)
• DECODER BLOCK





 : The power supply is shown with the marked box.

NOTES

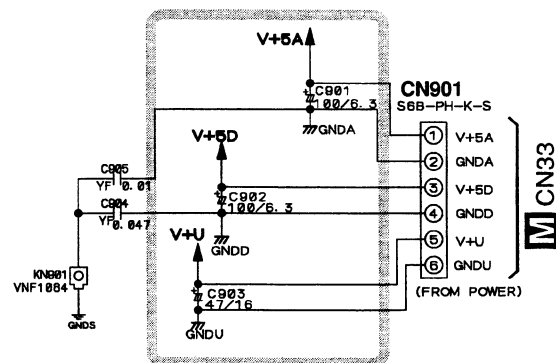
ALL CAPACITORS ARE IN μF

CH : CCSQCH
YF : CKSQYF
YB : CKSQYB
SL : CCSQSL
~~TA~~ : CEAL-TS

ALL RESISTORS ARE IN Ω
RS1/10S***J-T

OTHERS

↓ : CHASSIS GND



VOLTAGES and WAVEFORMS

A1/5 CD-R CORE ASSY

Media	Pickup Position	DGAI (IC351-pin56)	D8CM (IC351-pin57)
CD	12cm Inner	0V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	0V
	8cm Outer	5V	0V
CD-R CD-RW	12cm Inner	5V	0V
	12cm Outer	5V	0V
	8cm Inner	0V	5V
	8cm Outer	5V	5V

	at FS = 44 kHz (at FS Converter through)	Others
FSR/XTHR (CN301-pin2)	0V	5V
	at DIGITAL LOCK	at DIGITAL UNLOCK
XVCO (CN301-pin3)	0V	5V
UNLOCK (CN301-pin7)	0V	5V
XPFAIL (CN301-pin4)	5V	—
XRST (CN301-pin11)	5V	—

A3/5 CD-R CORE ASSY

Operating Mode	CLV (IC201-pin13)	ECLV (IC201-pin14)
STOP	0V	0V
CAV	0V	5V
CLV	5V	0V
ECLV	5V	5V

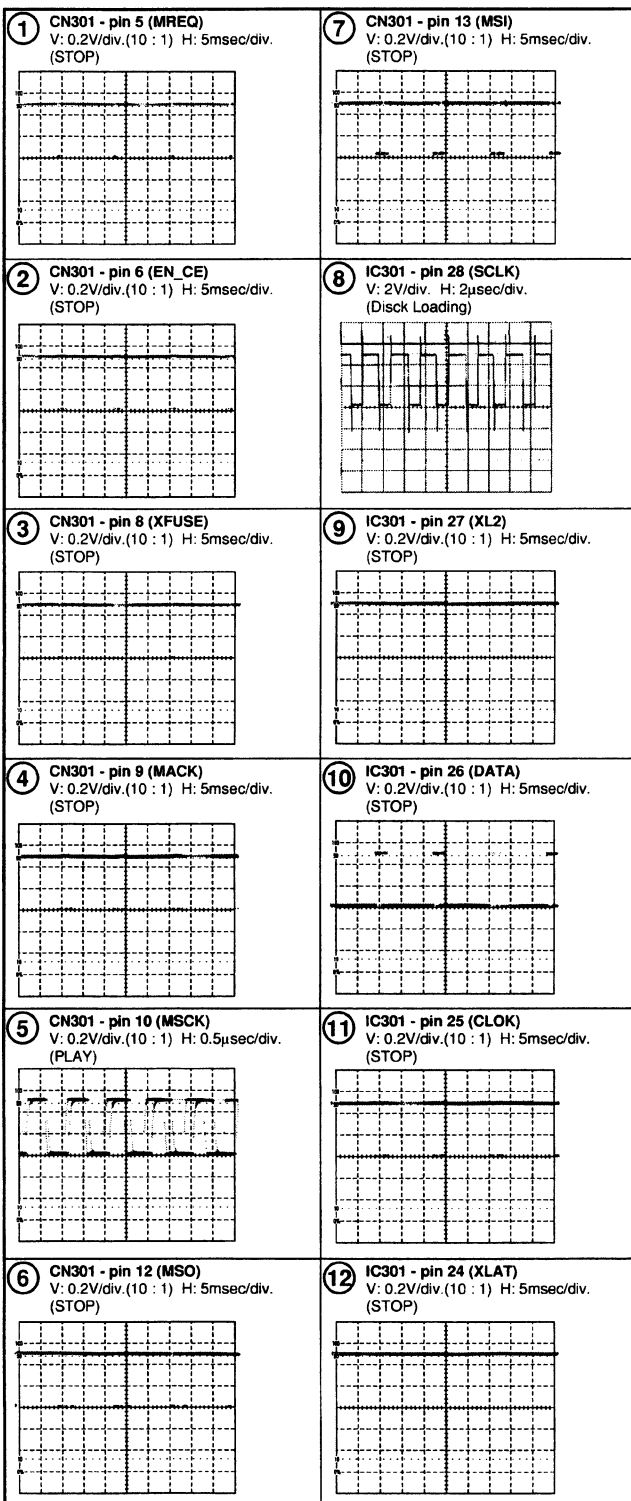
A4/5 CD-R CORE ASSY

	A/D Converter used	
	at Analog REC Pause or REC	Others
ADSTBY (CN501-pin4)	0V	5V
	at MUTE ON (Audio Signal Not Output)	at MUTE OFF (Audio Signal Output)
AMUTE (CN501-pin9)	5V	0V
LRSTD (CN501-pin10)	5V	—

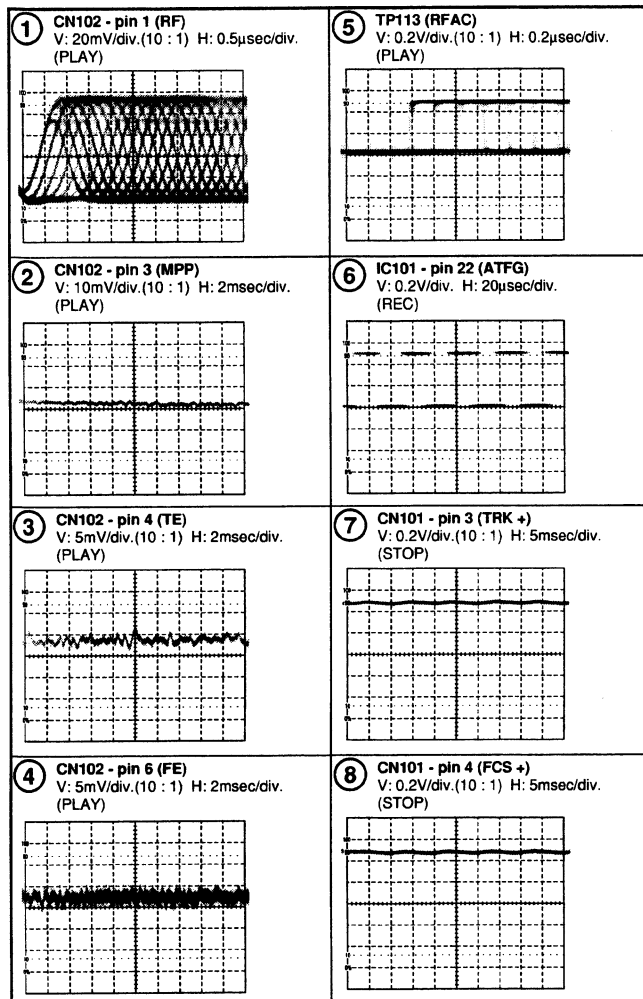
Note :

The encircled numbers denote measuring point in the schematic diagram.

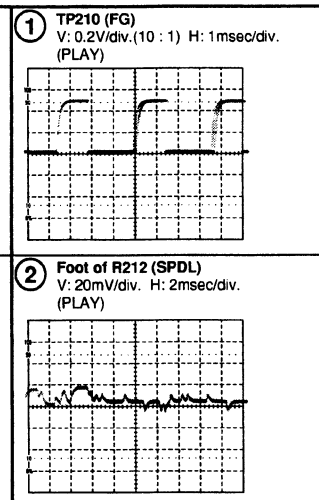
A1/5 CD-R CORE ASSY



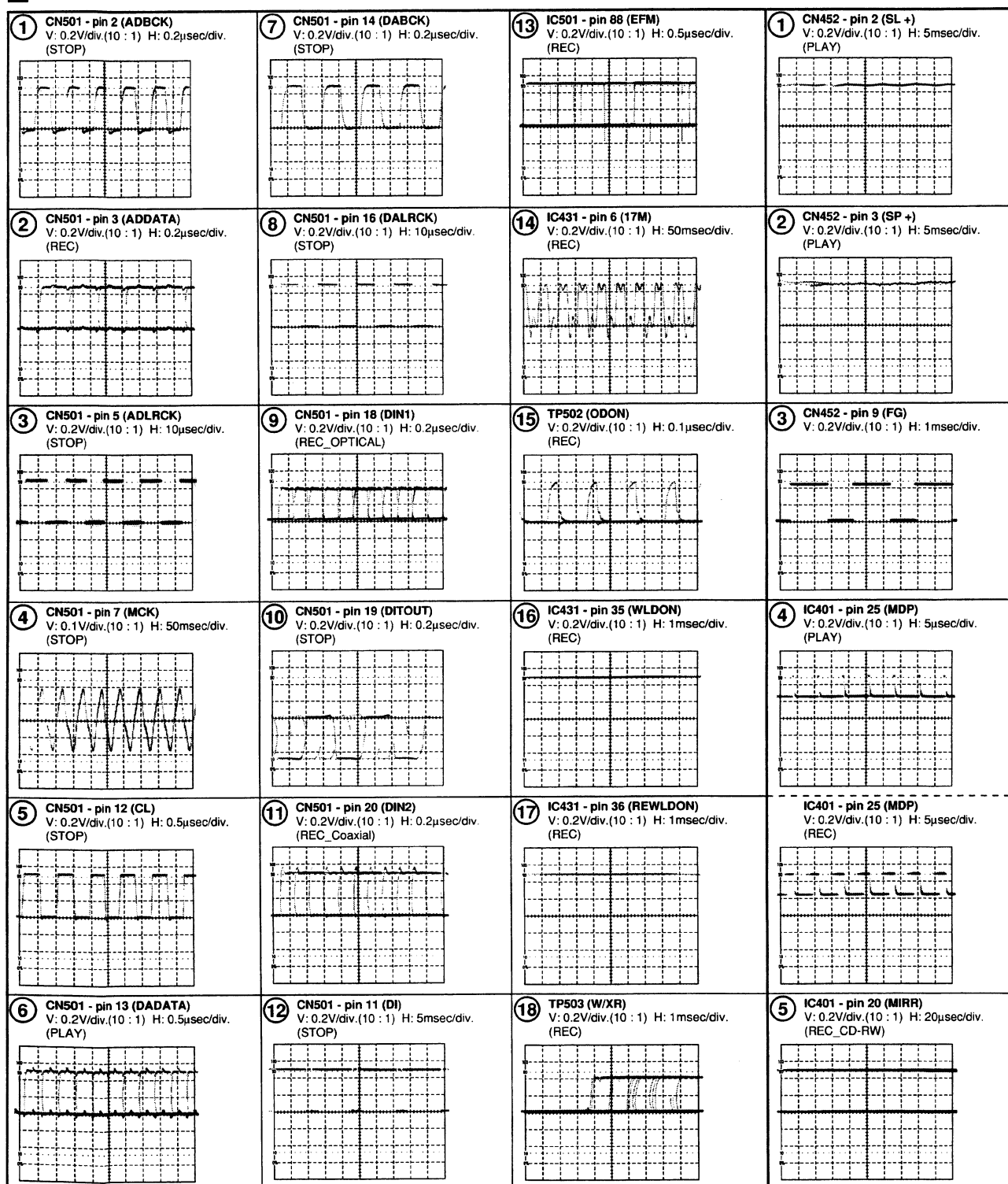
A2/5 CD-R CORE ASSY



A3/5 CD-R CORE ASSY

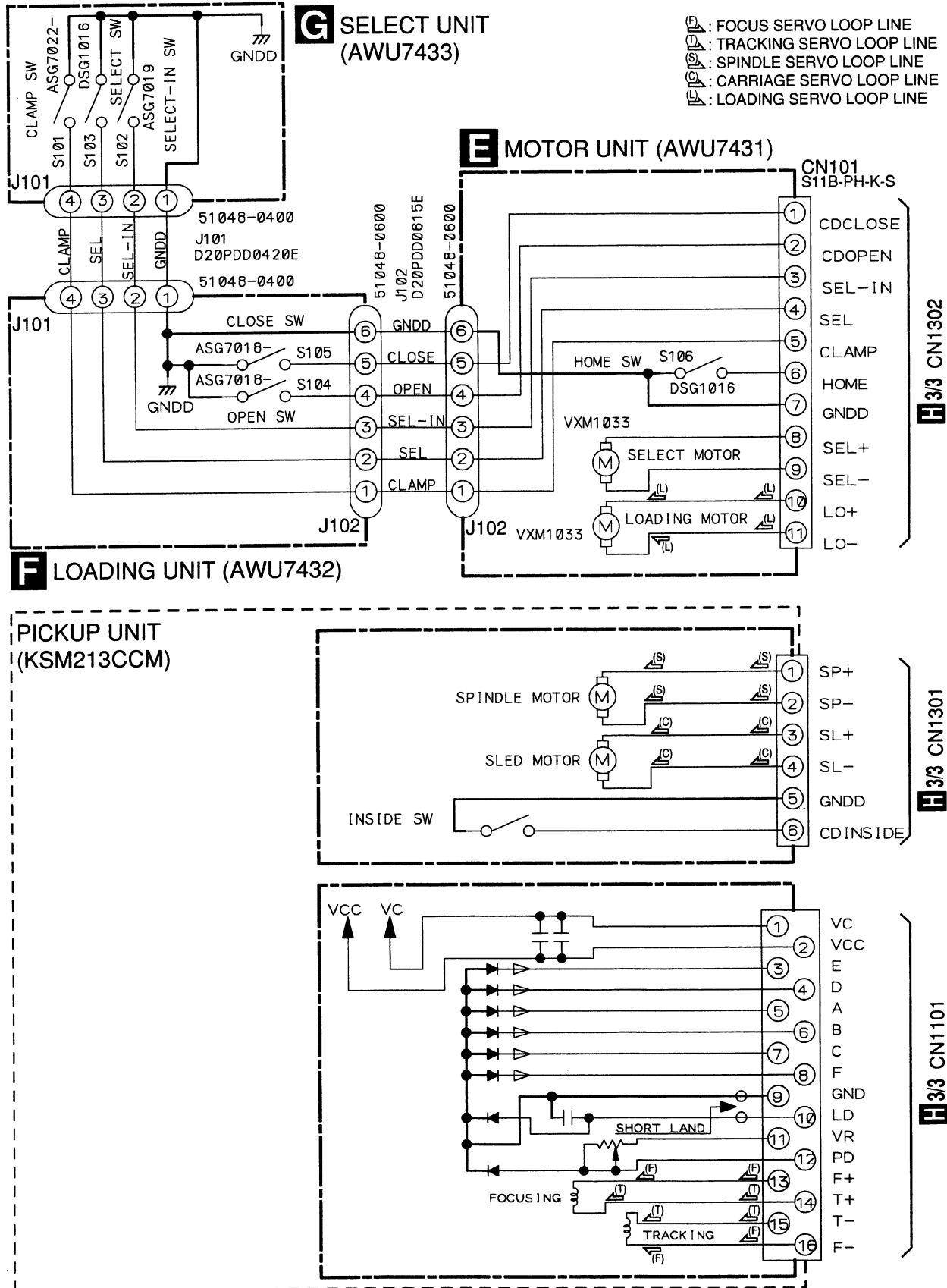


A4/5 CD-R CORE ASSY

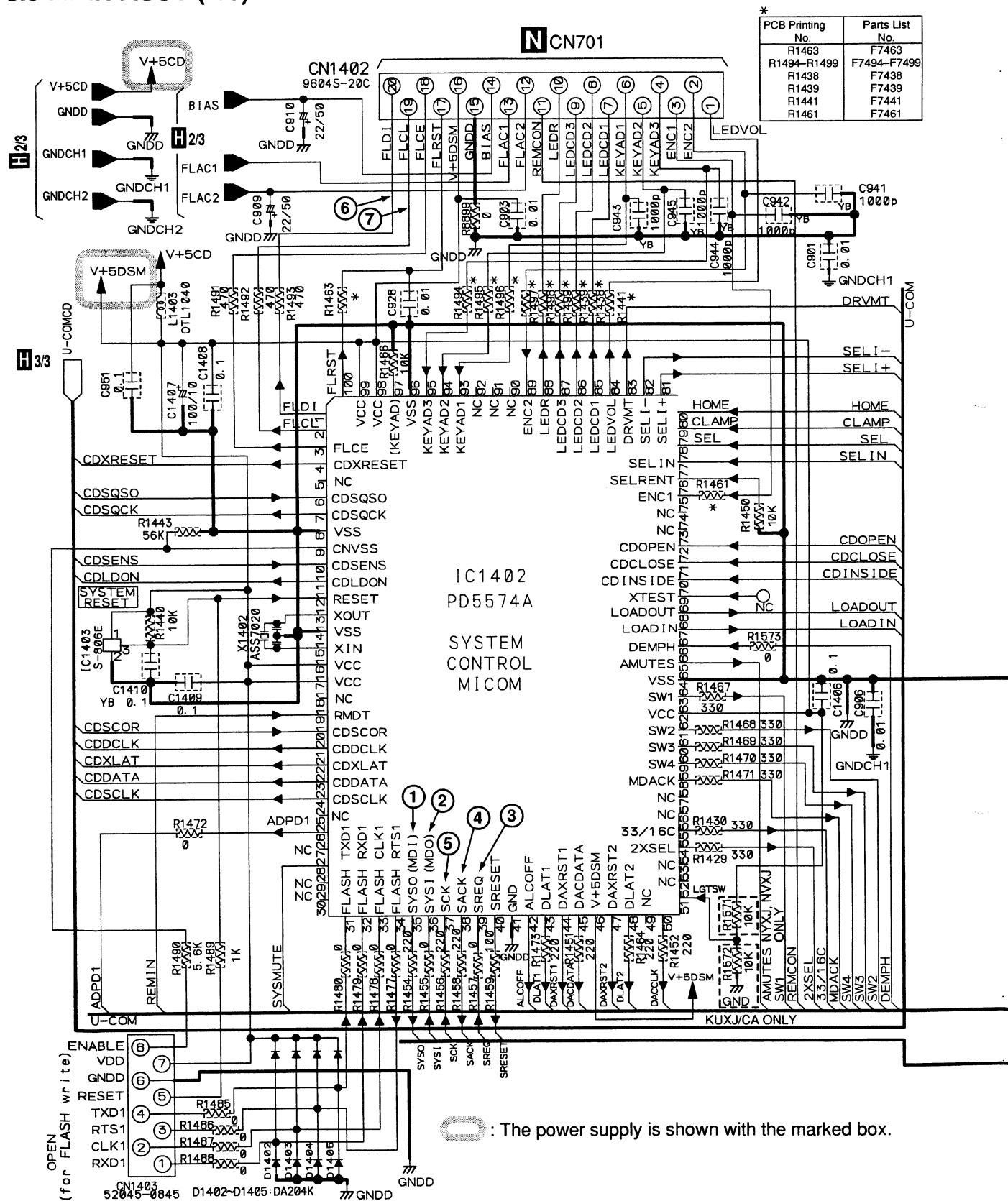


A5/5 CD-R CORE ASSY

3.8 MOTOR, LOADING, SELECT and PICKUP UNITS



3.9 MAIN ASSY (1/3)



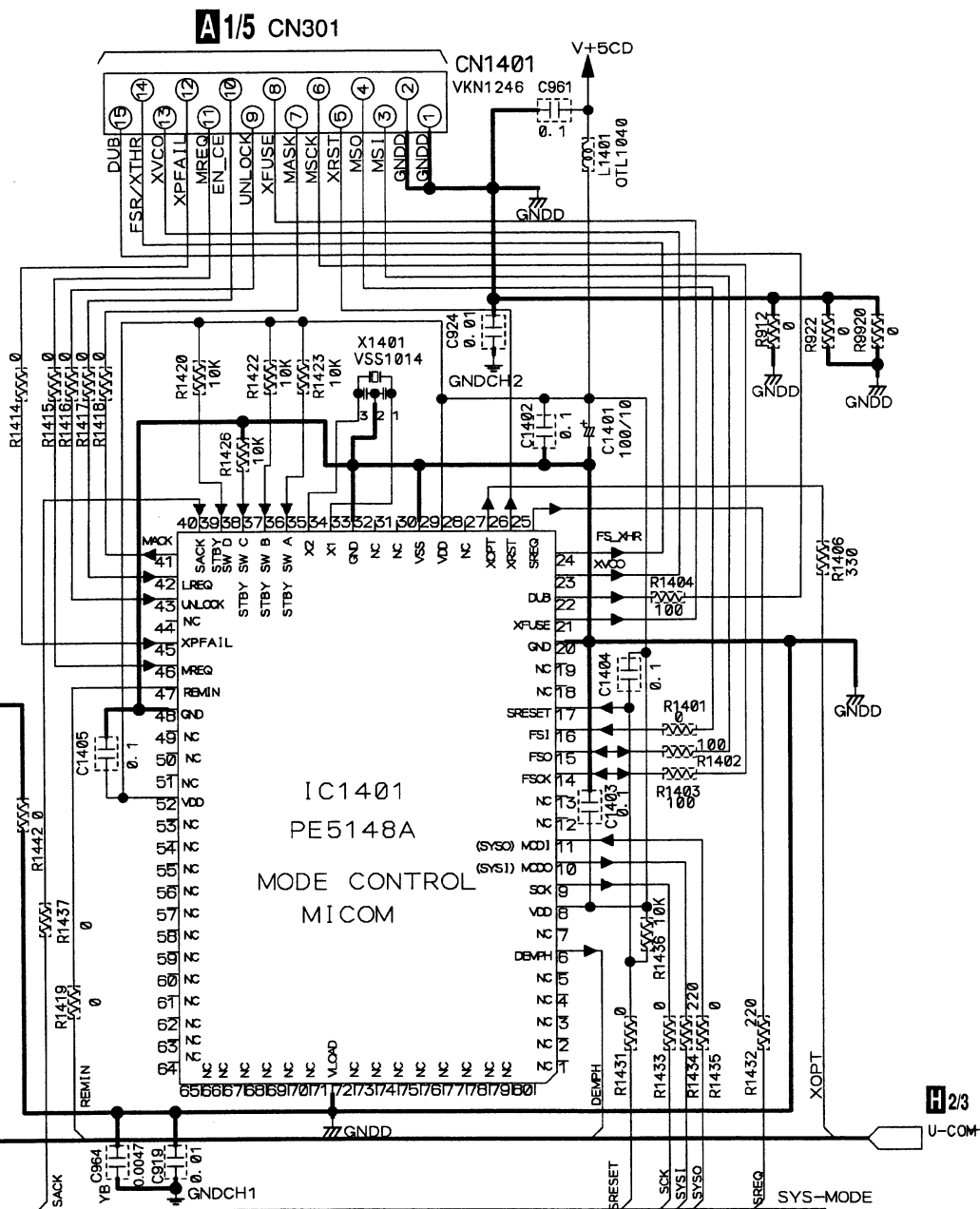
H1/3 MAIN ASSY (KUXJ/CA: PWX1618) (NYXJ, NVXJ: PWX1619)

A

B

C

D



U-COM

MAIN ASSY
(KUXJ/CA: PWX1618)
(NYXJ, NVXJ: PWX1619)



CAPACITORS		UNMARKED UNIT: #F	INDUCTORS		UNIT: #H
YB CERAMIC		CKSQYB	UNMARKED		CHIP TYPE
CH CERAMIC		CKSQCH	RESISTORS		UNIT: Ω
UNMARKED CERAMIC		CKSQFH			
UNMARKED ELECTROLYSIS	CEJA		UNMARKED VM		RS1/1BS RD1/4VM





C

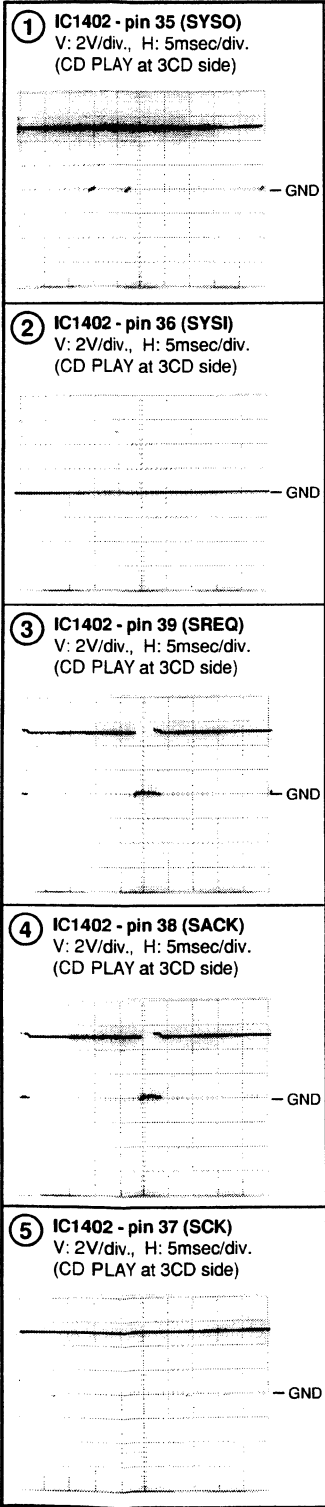
D

: The power supply is shown with the marked box.

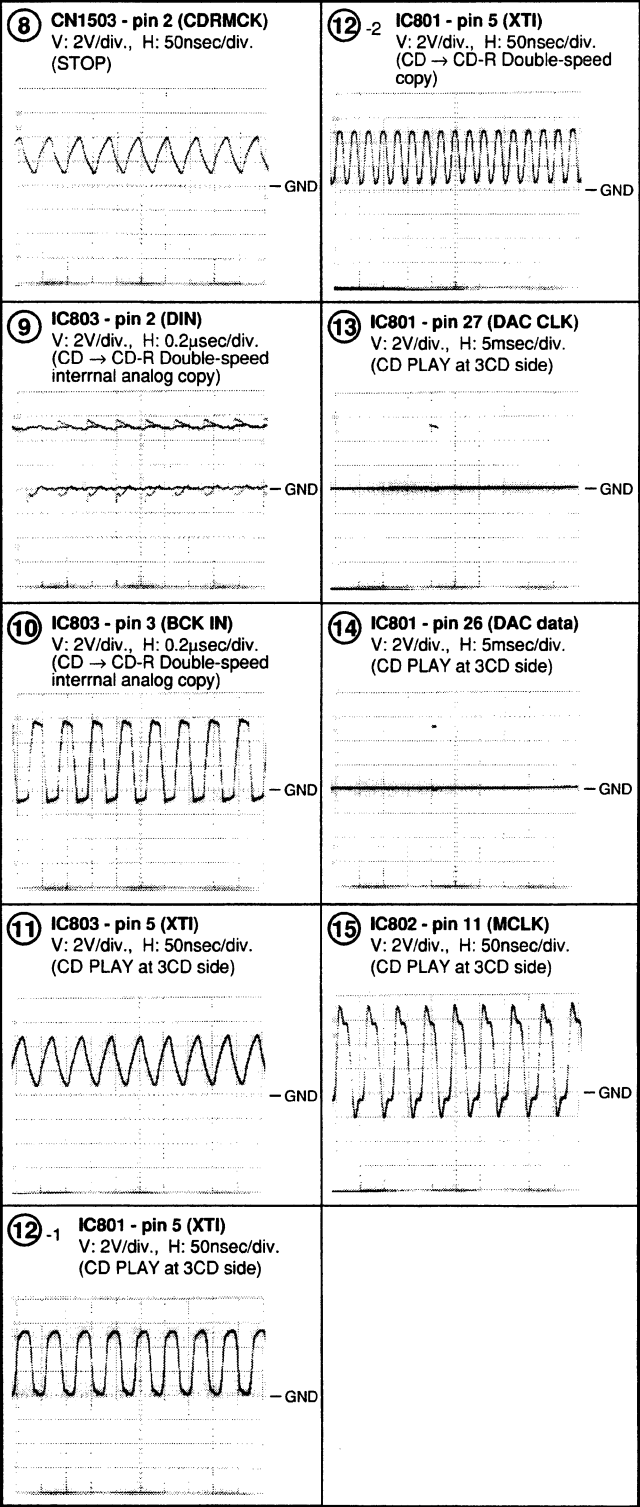
WAVEFORMS OF MAIN ASSY

Note :
The encircled numbers denote measuring point in the schematic diagram.

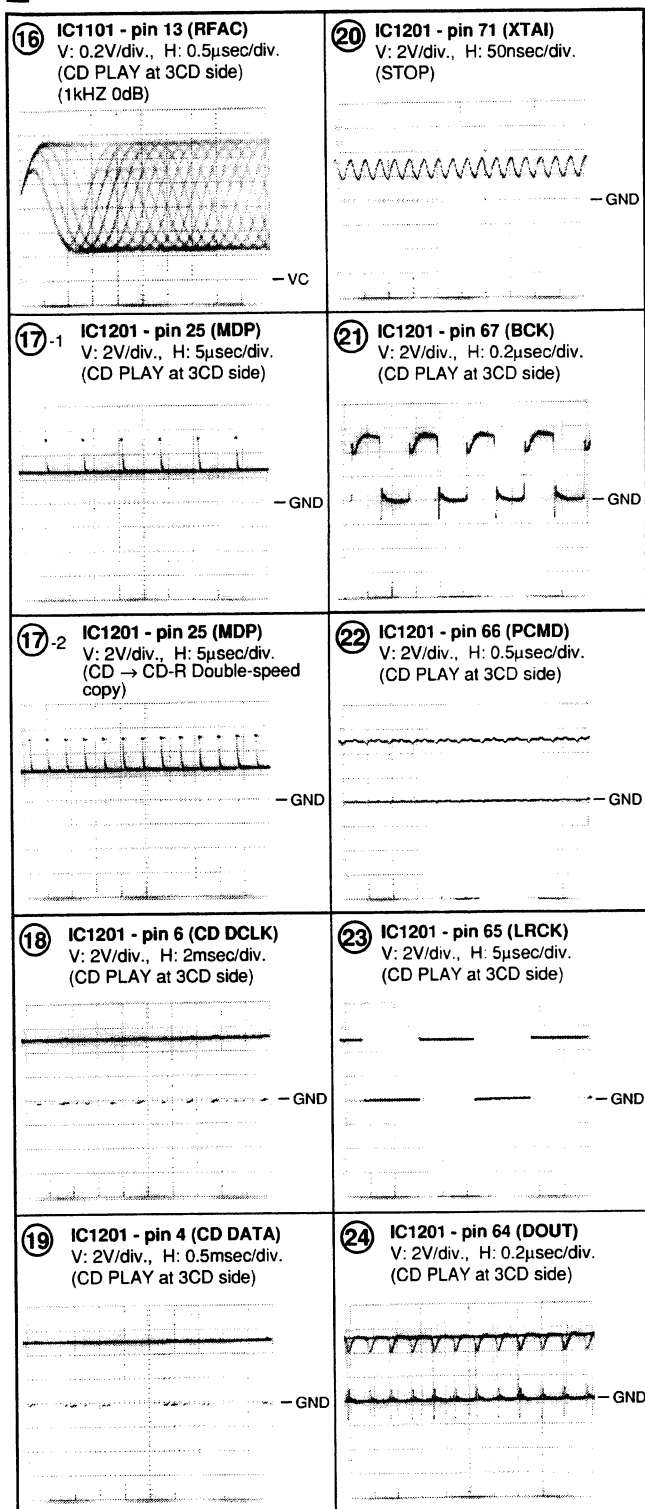
H1/3 MAIN ASSY



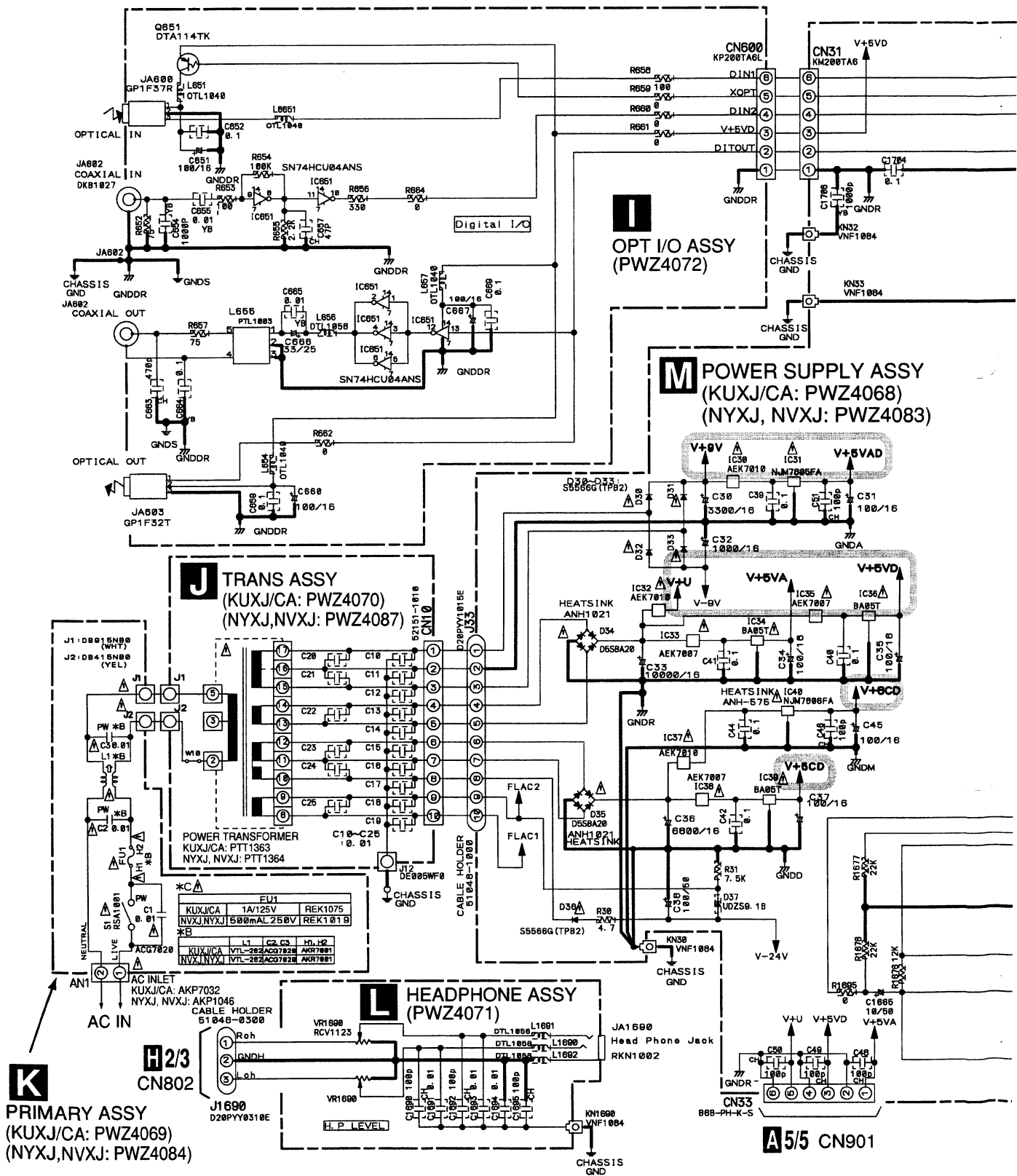
H2/3 MAIN ASSY



H3/3 MAIN ASSY



3.12 OPT I/O, TRANS, PRIMARY, HEADPHONE and POWER SUPPLY ASSYS

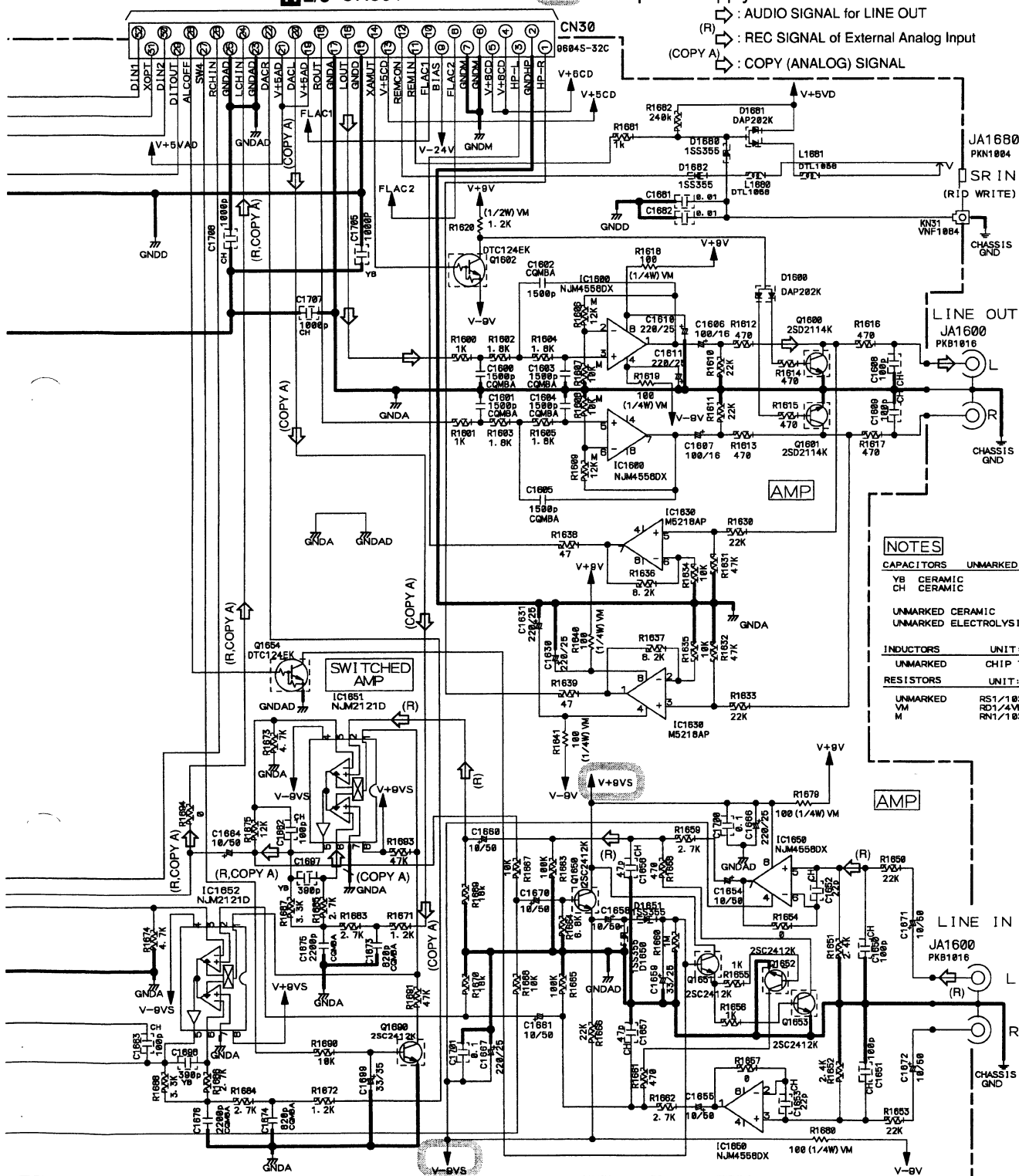


: The power supply is shown with the marked box.

⇒ : AUDIO SIGNAL for LINE OUT

(R) : REC SIGNAL of External Analog Input

(COPY A) ➡ : COPY (ANALOG) SIGNAL



CAUTION :
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE ONLY WITH SAME TYPE NO. 4911.25 FOR IC30
IC32 AND IC37, 491.750 FOR IC33, IC35 AND IC38 MFD. BY
LITTELFUSE INC.

1 • NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

NOTES

CAPACITORS		UNMARKED UNIT #
YB	CERAMIC	CKSQYB
CH	CERAMIC	CKSQCH
UNMARKED CERAMIC		CKSQYF
UNMARKED ELECTROLYSIS		CEAT

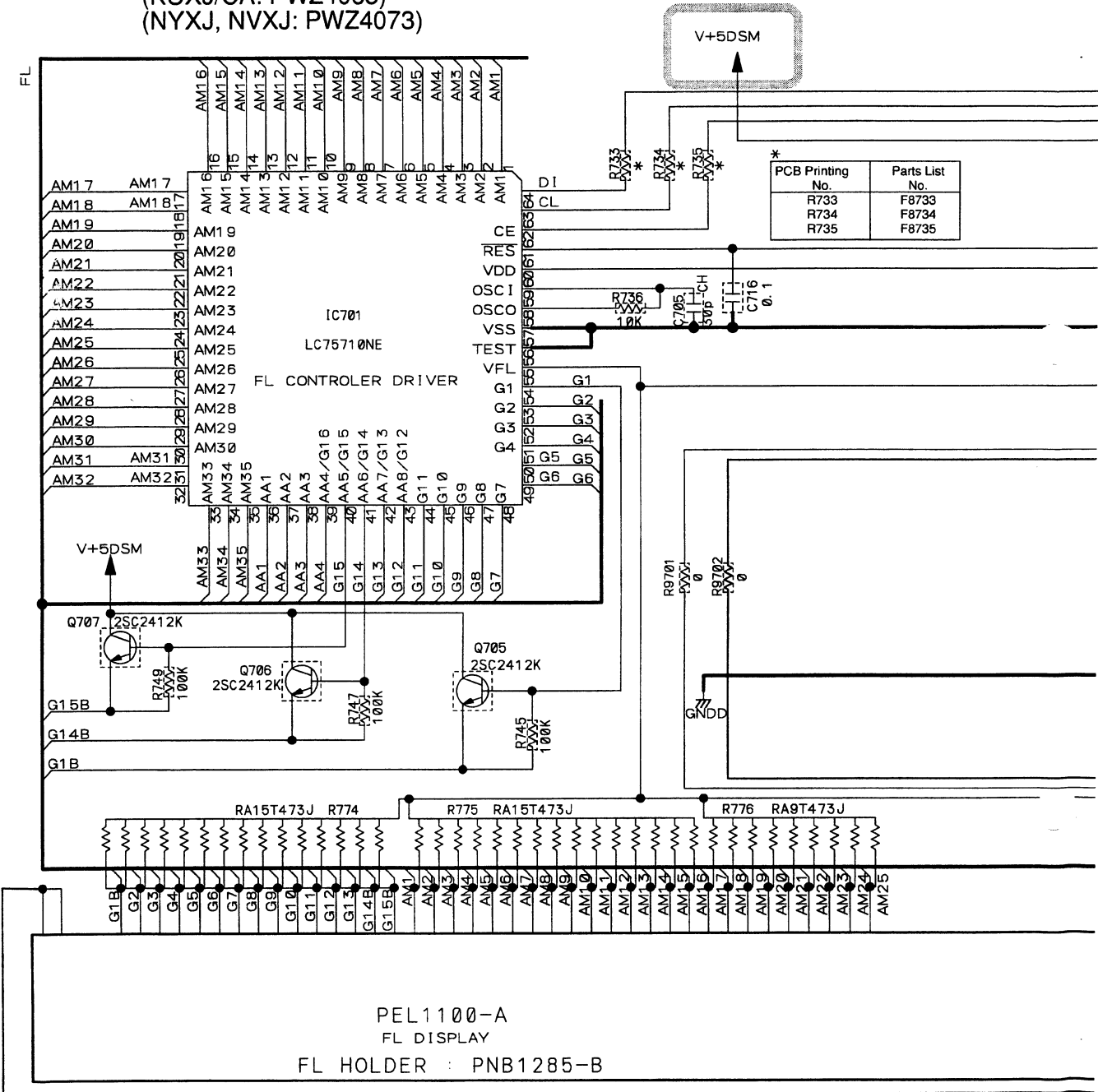
INDUCTORS	UNIT: μH
UNMARKED	CHIP TYPE

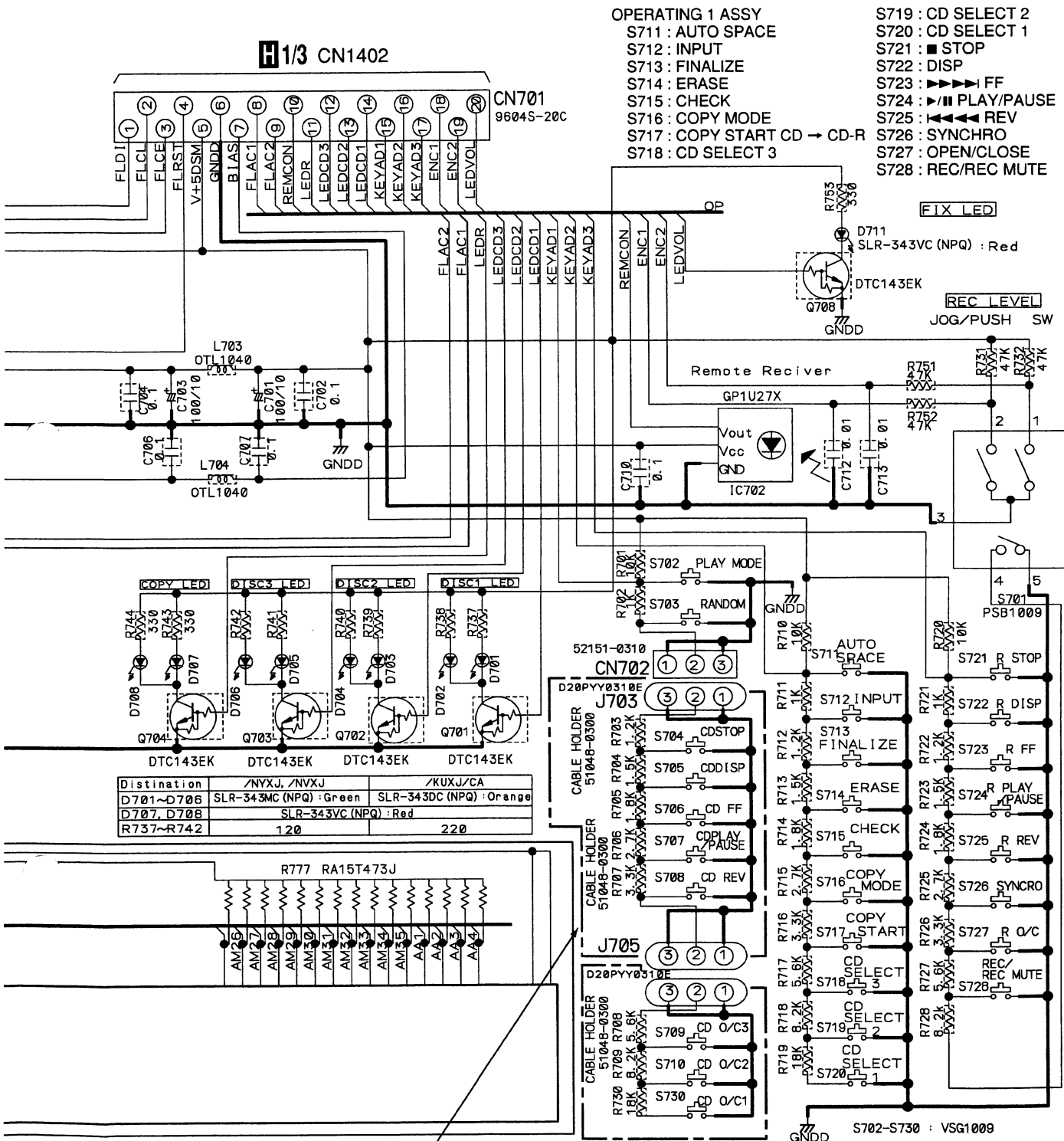
RESISTORS	UNIT:Ω
UNMARKED	RS1/10S***J
VM	RD1/4VM
M	RN1/10SE****D

3.13 OPERATING 1, OPERATING 2 and OPERATING 3 ASSYS

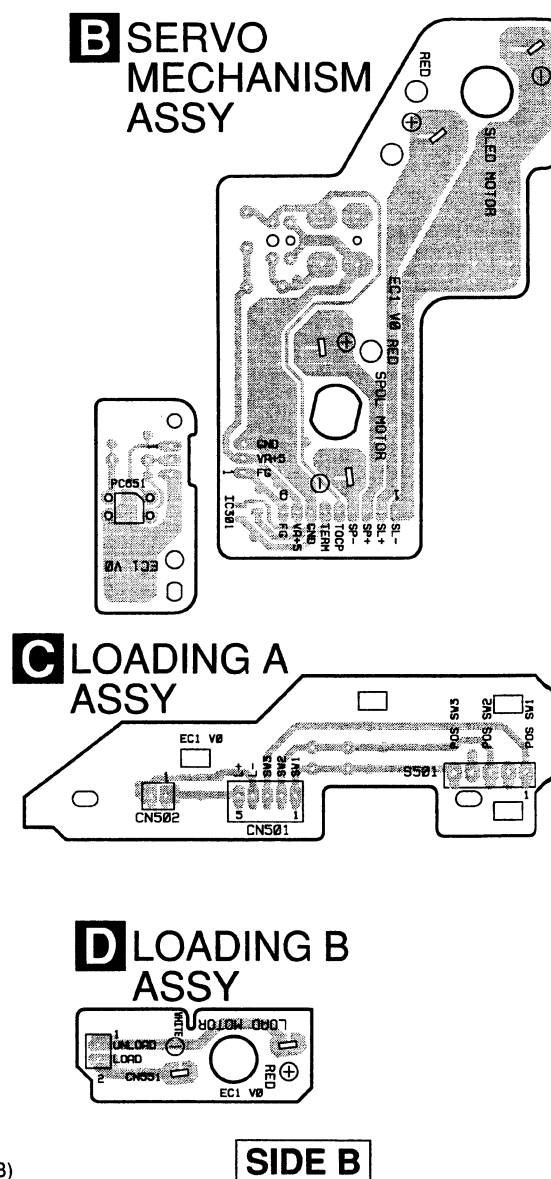
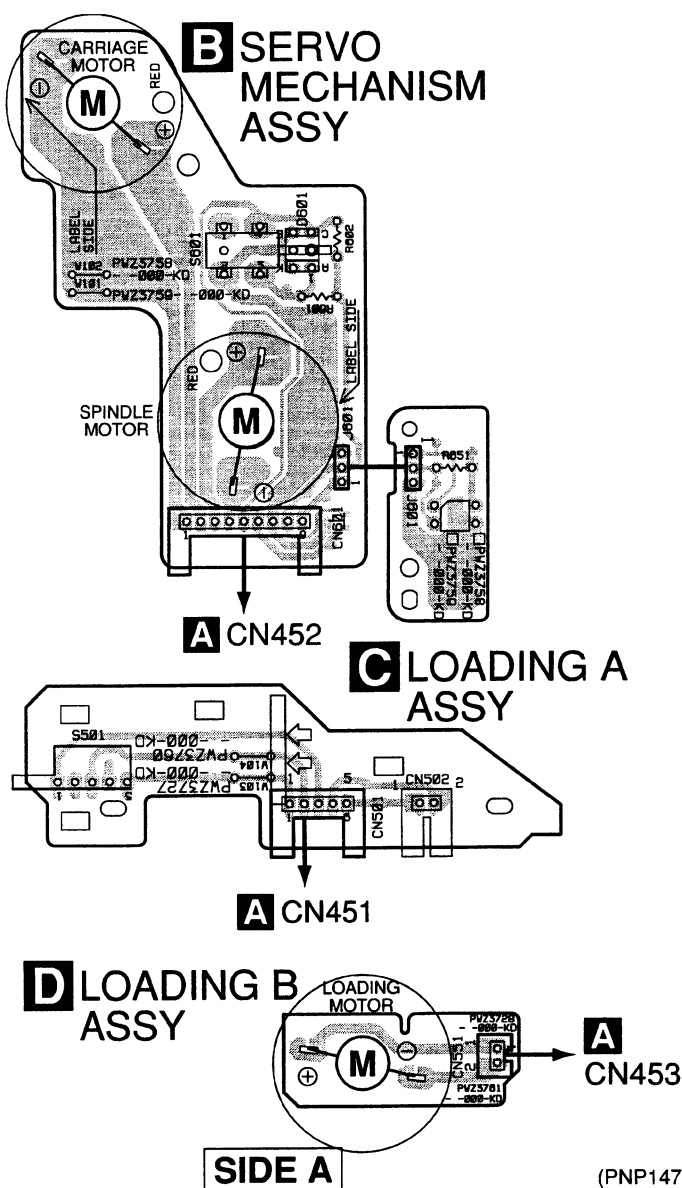
 : The power supply is shown with the marked box.

N OPERATING 1 ASSY
(KUXJ/CA: PWZ4065)
(NYXJ, NVXJ: PWZ4073)





4.2 SERVO MECHANISM, LOADING A and LOADING B ASSYS

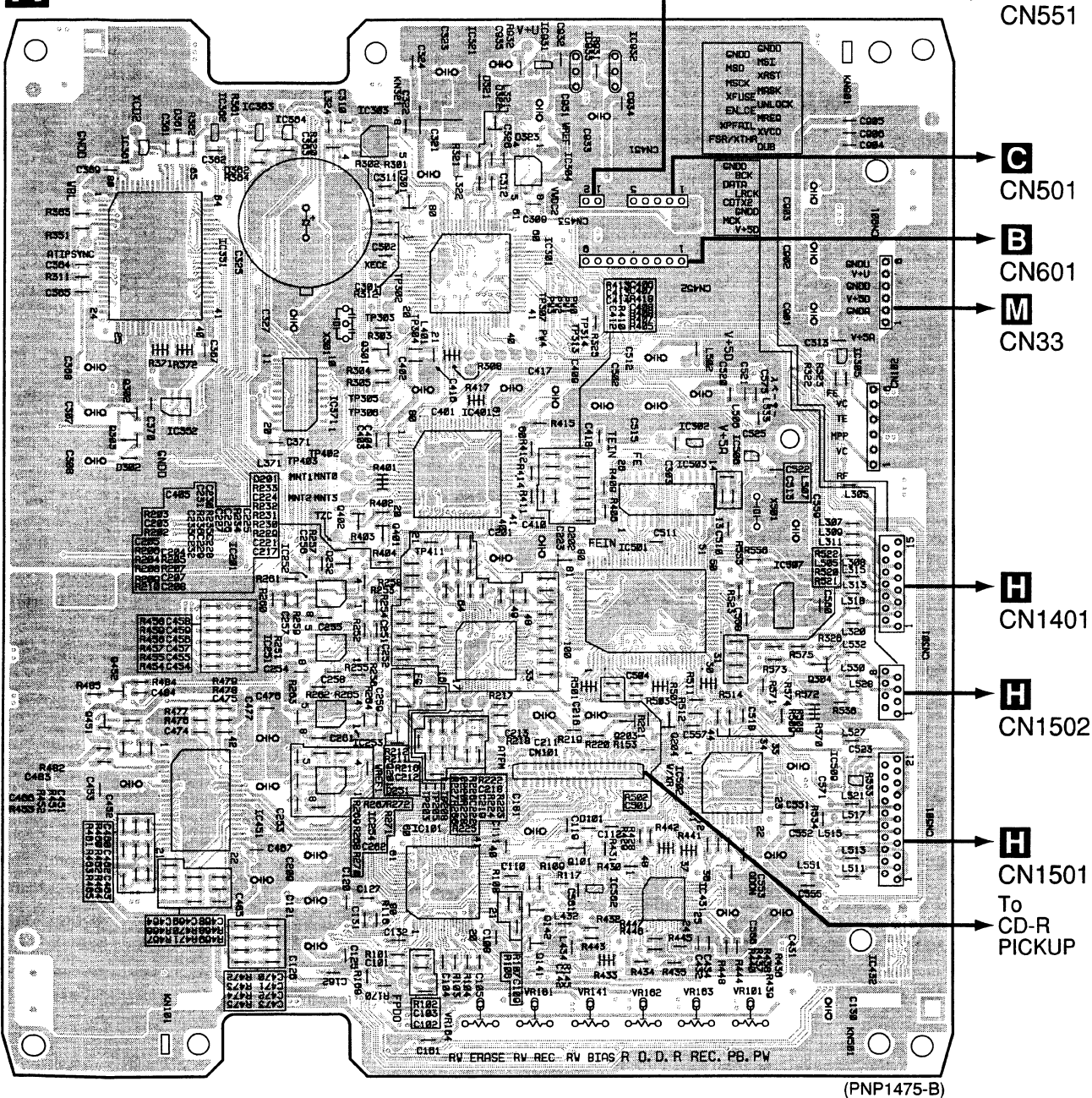


4.3 CD-R CORE ASSY

• This diagram has four layers.

In the two middle layers, mainly Vcc and GND are Connected.

A CD-R CORE ASSY

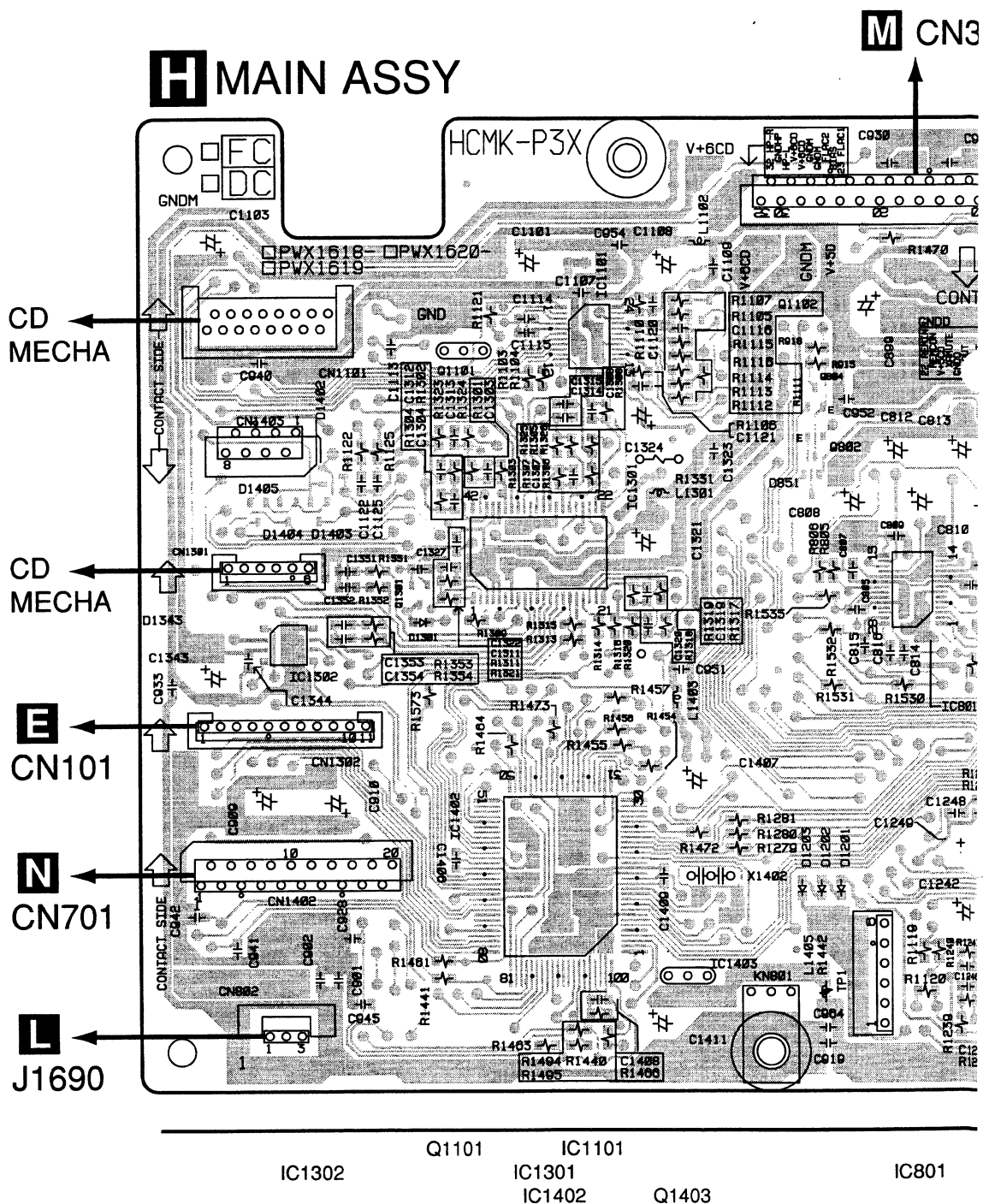


VR164 VR161 VR141 VR162 VR163 VR101

IC361-IC364	IC303	IC931-IC933	IC503 IC302 IC506	IC305
IC351	IC371 Q301	IC301 IC304	IC501	IC507 Q304
Q302 Q303 IC352	Q402 Q401	IC401	IC502	IC509
Q451 Q452	IC251-IC254	IC201	Q101 Q203 Q204	IC432
IC451	Q201	IC101	Q142 IC562 IC431	

SIDE A

4.4 MAIN ASSYS



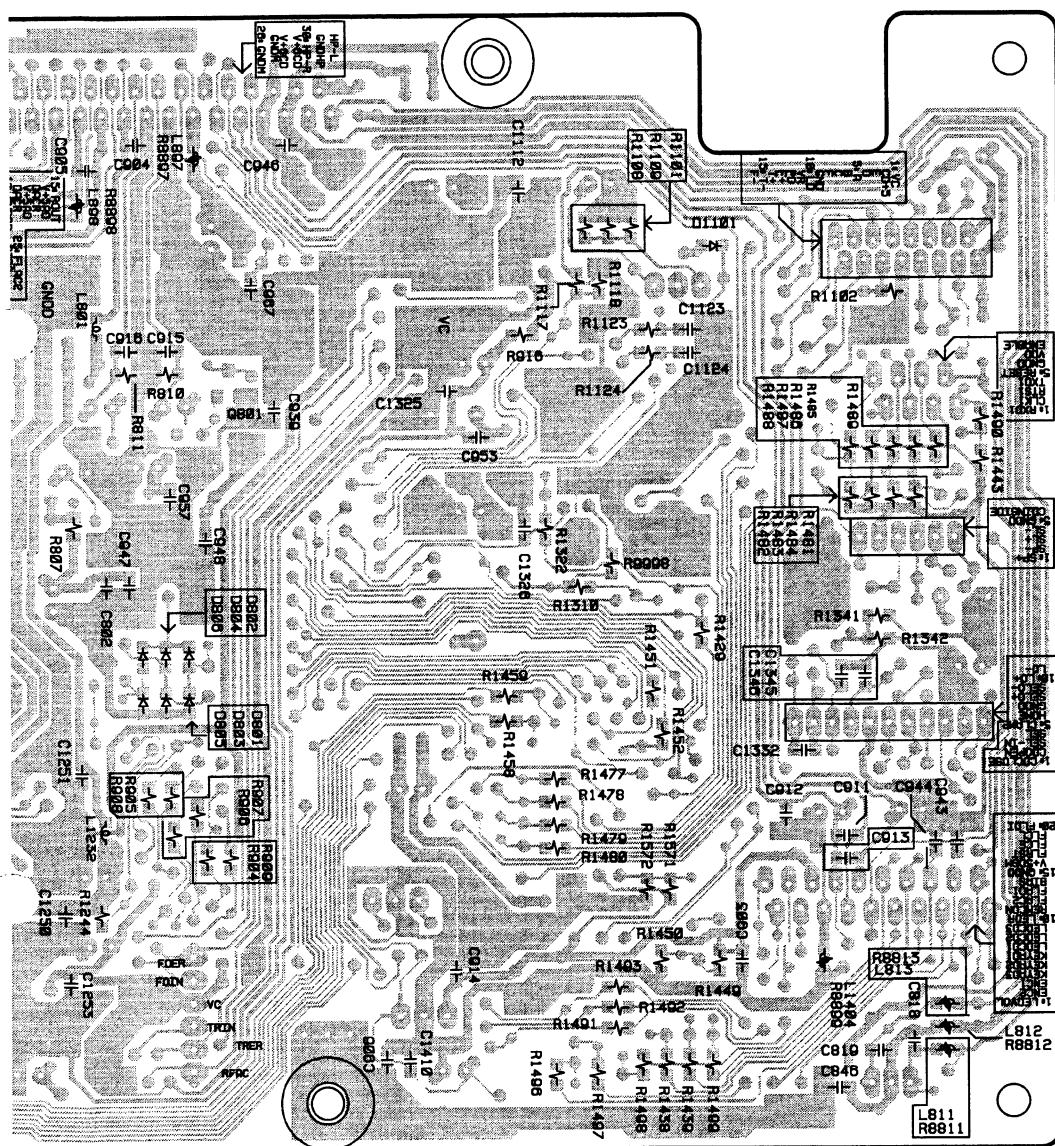


A

B

C

D



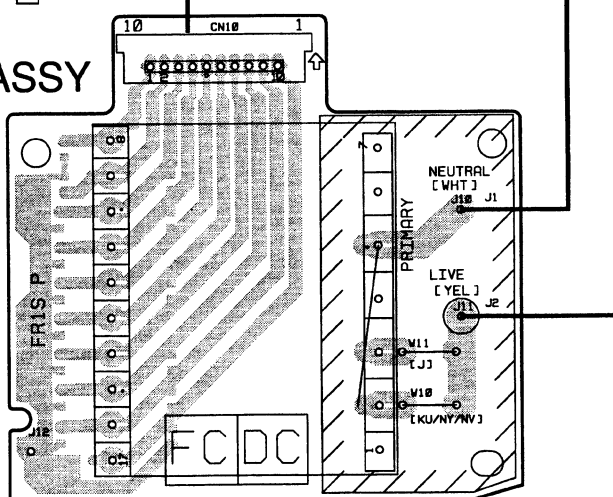
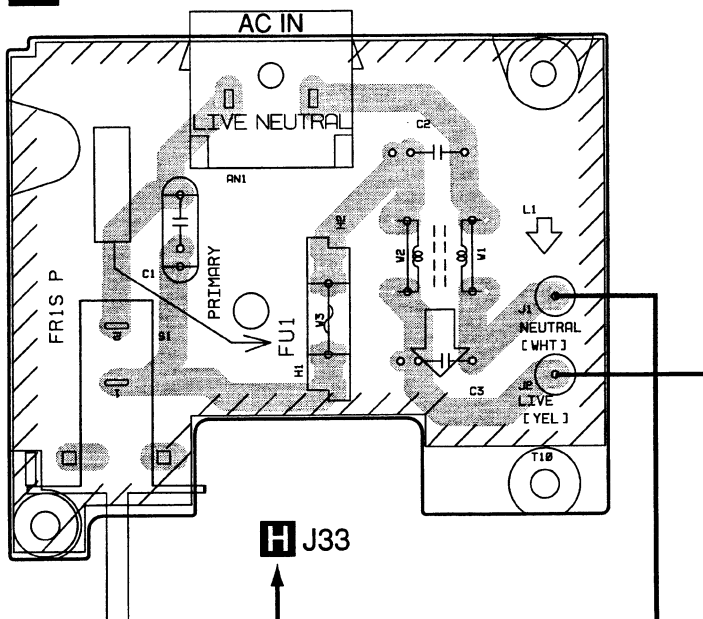
(PNP1472-A)

SIDE B

M POWER SUPPLY ASSY

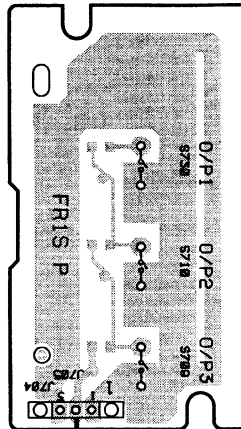


OPT I/O ASSY

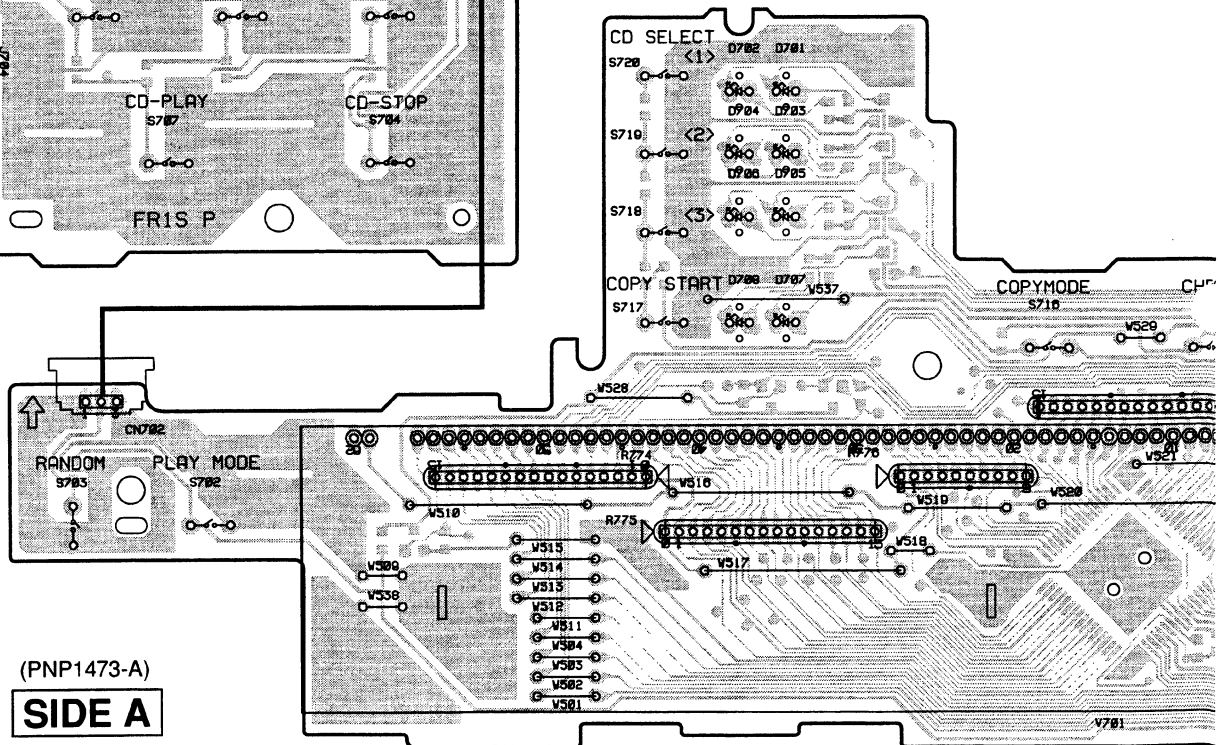
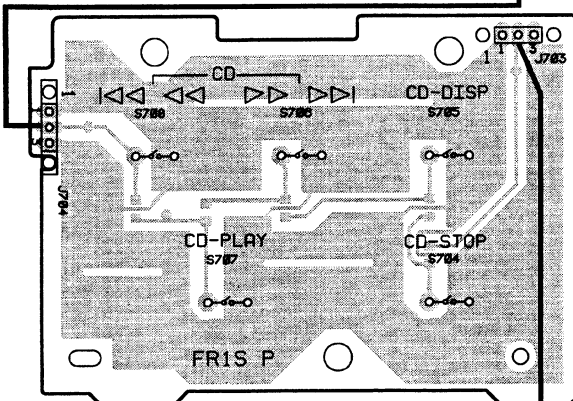


4.7 HEAD PHONE, OPERATING1, OPERATING2 and OPERATING3 ASSY

P OPERATING3 ASSY

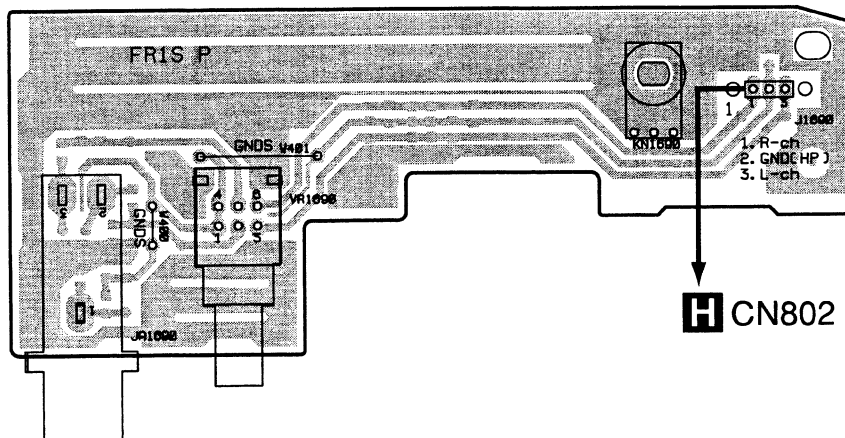


O OPERATING2 ASSY

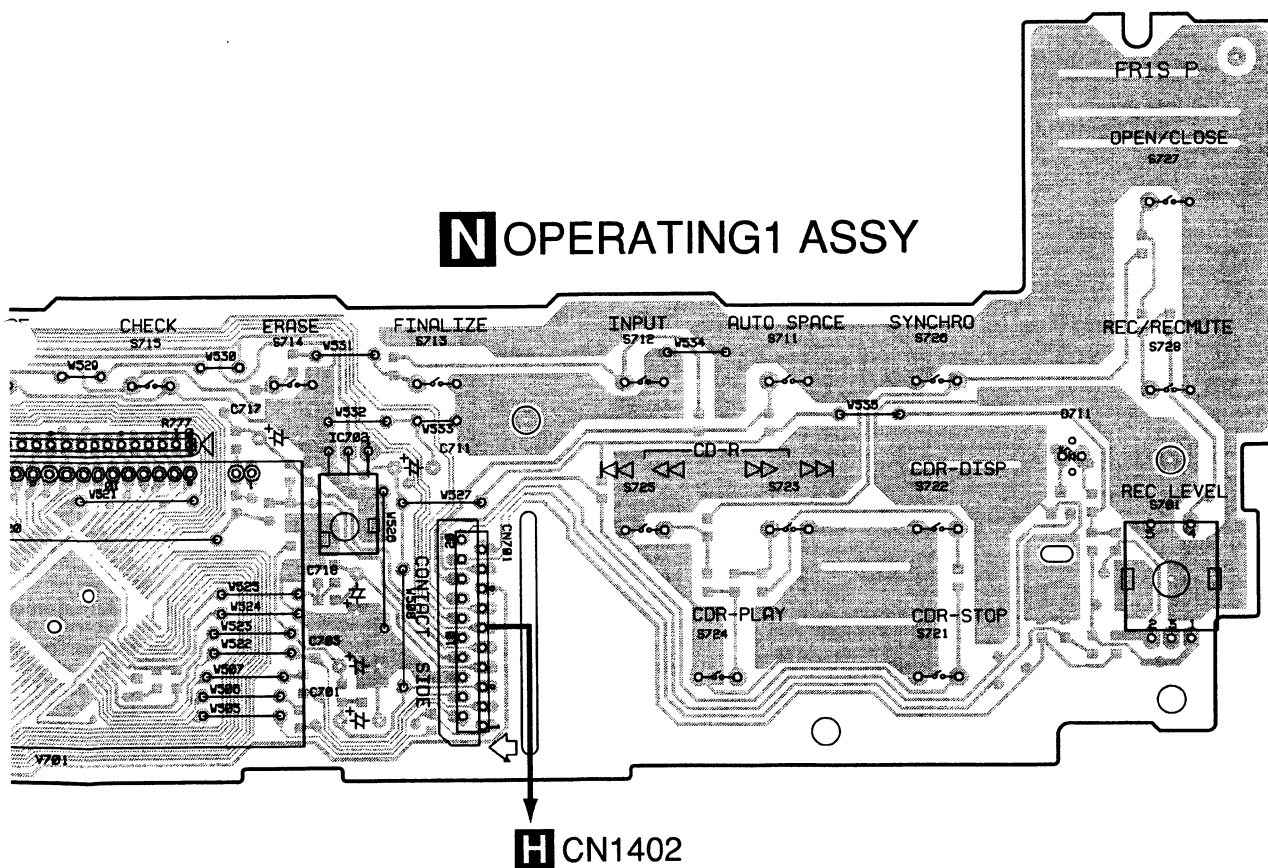


(PNP1473-A)
SIDE A

L HEAD PHONE ASSY



N OPERATING1 ASSY



L



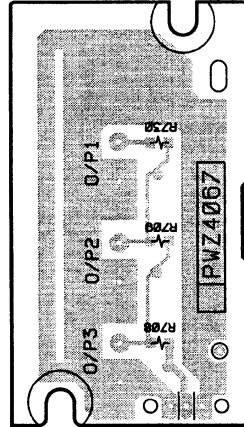
N



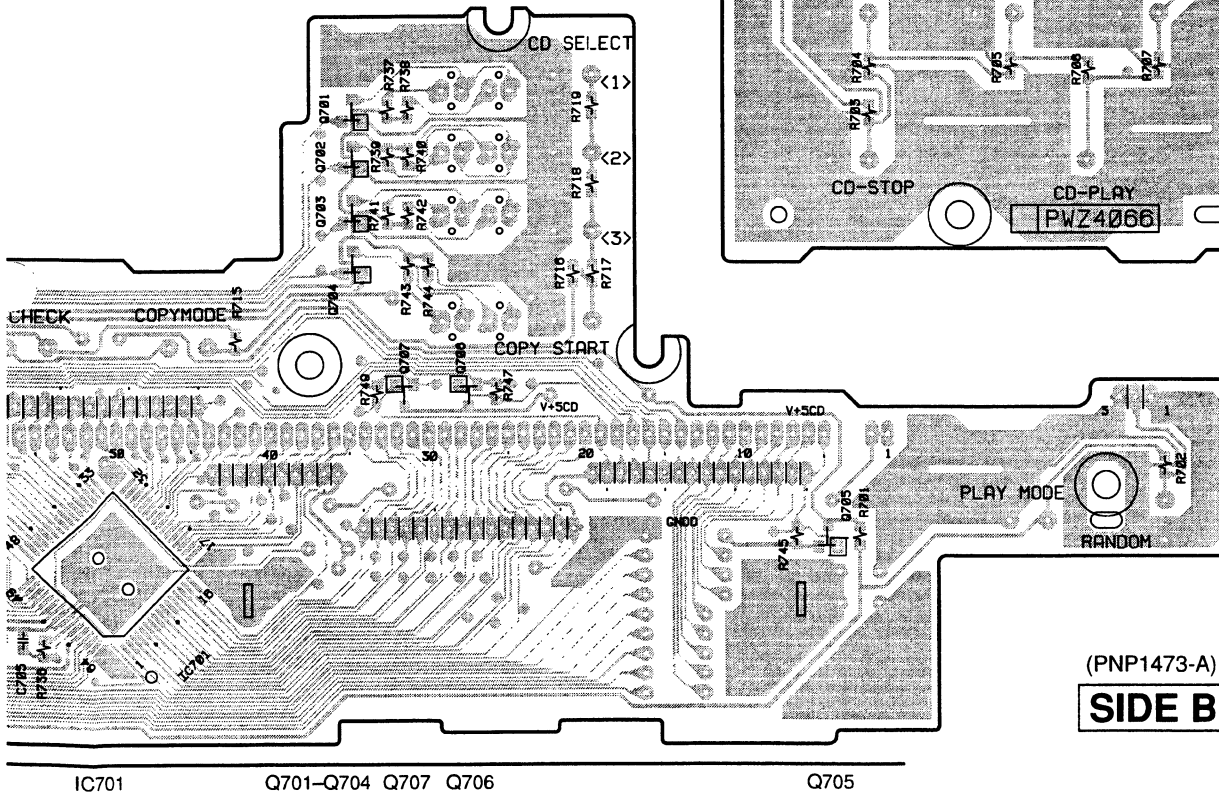
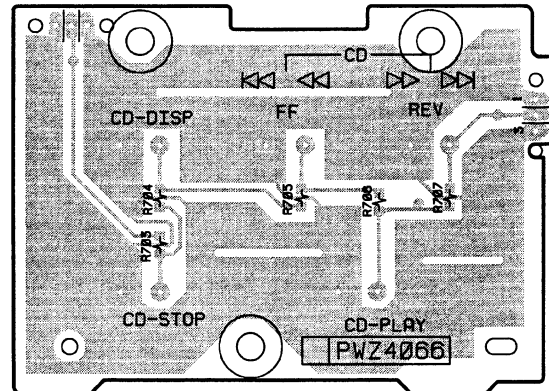
Q708

IC701

P OPERATING3 ASSY



O OPERATING2 ASSY



(PNP1473-A)
SIDE B

N O P

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
●The Δ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
●When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
560 Ω → 56 × 10¹ → 561 RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 RD1/4PU 4 7 3 J
0.5 Ω → R50 RN2H R 5 0 K
1 Ω → 1R0 RS1P 1 R 0 K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10¹ → 5621 RN1/4PC 5 6 2 1 F

■ CONTRAST OF PCB ASSEMBLIES

Mark	Symbol and Description	Part No.			Remarks
		PDR-W739 /KUXJ/CA	PDR-W739 /NYXJ	PDR-W739 /NVXJ	
NSP	CD-R CORE ASSY	PYY1279	PYY1279	PYY1279	
NSP	MECHANISM ASSY	PWX1570	PWX1570	PWX1570	
NSP	└ SERVO MECHANISM ASSY	PWZ3759	PWZ3759	PWZ3759	
NSP	└ LOADING A ASSY	PWZ3760	PWZ3760	PWZ3760	
NSP	└ LOADING B ASSY	PWZ3761	PWZ3761	PWZ3761	
NSP	3CD UNIT	AWM7473	AWM7473	AWM7473	
	└ MOTOR UNIT	AWU7431	AWU7431	AWU7431	
	└ LOADING UNIT	AWU7432	AWU7432	AWU7432	
	└ SELECT UNIT	AWU7433	AWU7433	AWU7433	
NSP	MAIN ASSY	PWX1618	PWX1619	PWX1619	
	SUB ASSY	PWM2300	PWM2301	PWM2301	
	└ OPERATING2 ASSY	PWZ4066	PWZ4066	PWZ4066	
	└ OPERATING3 ASSY	PWZ4067	PWZ4067	PWZ4067	
	└ HEAD PHONE ASSY	PWZ4071	PWZ4071	PWZ4071	
	└ OPERATING1 ASSY	PWZ4065	PWZ4073	PWZ4073	
	└ OPT I/O ASSY	PWZ4072	PWZ4072	PWZ4072	
	└ POWER SUPPLY ASSY	PWZ4068	PWZ4083	PWZ4083	
	└ PRIMARY ASSY	PWZ4069	PWZ4084	PWZ4084	
	└ TRANS ASSY	PWZ4070	PWZ4087	PWZ4087	

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
------	-----	-------------	----------	------	-----	-------------	----------

A CD-R CORE ASSY

SEMICONDUCTORS

	IC502	AD1893JST
	IC101	AK8563
Δ	IC321	BA05FP
	IC142, IC143, IC304	BA10358F
	IC561	BA7082F
	IC303 (BR93LC46F)	PYY1196
	IC401	CXD2585Q
	IC141, IC161, IC255, IC508	HD74HC4053FP
	IC371	HD74HC573FP
	IC501	LC89585
Δ	IC503	LH64256CK-70
	IC931	LP2980IM5-5.0
	IC451	M56788FP
	IC252-IC254	NJM2100M
	IC181	NJM2137M
	IC251	NJU7016M
	IC201	PA9007A
	IC507	PCX1026
	IC431	PD9020A
	IC351	PDJ014A
	IC301	PE5147B
	IC932	PST994C
	IC505	TC74HC157AF
	IC362	TC7S00F
	IC363, IC562	TC7S04F

IC305, IC509	TC7S08F
IC361, IC364	TC7S14F
IC510	TC7S32F
IC506	TC7SU04F
IC302	TK11041M-1
Q452	2SK209
Q102	DTA114TK
Q204, Q401, Q402	DTA124EK
Q551	DTA143EK
Q101, Q142, Q201, Q203	DTC114TK
Q103, Q141, Q301-Q304	DTC124EK
D101, D182, D201, D302	1SS355
D321, D322, D361, D362, D452	1SS355
D102, D181, D202, D251	DA204K
D551	DAN202K
D301	DAP202K
D141, D252, D323	MA704
D204	UDZ3.0B

COILS AND FILTERS

L434, L505 CHIP COIL	DTL1058
L101, L302, L305-L309	OTL1040
L311-L315, L318-L320	OTL1040
L322-L324, L351, L371	OTL1040
L511-L513, L515-L518, L522	OTL1040

Mark	No.	Description	Part No.
	L524, L526	CHIP SOLID INDUCTOR	OTL1040
	L568	CHIP SOLID INDUCTOR	QTL1015
	F401, F403, F432, F433		VTF1097
	F501-F504, F506-F508, F510		VTF1097
	F514, F520, F521, F527, F533		VTF1097
	F551, F552, F561, F571	CHIP SOLID INDUCTOR	VTF1097

CAPACITORS

C122, C185	CCSQCH100D50
C159, C434, C551, C564	CCSQCH101J50
C507, C508	CCSQCH150J50
C563	CCSQCH160J50
C406	CCSQCH221J50
C107, C404	CCSQCH331J50
C263, C311	CCSQCH470J50
C213, C256, C408, C526	CCSQCH471J50
C518	CCSQCH820J50
C183, C184	CCSQCH3R0C50
C480-C482	CCSQSL471J50
C321, C465, C931	CEAL100M50
C121, C126, C327, C401, C409	CEAL101M6R3
C417, C901, C902	CEAL101M6R3
C307	CEAL1R0M50
C216	CEAL2R2M50
C933	CEAL3R3M50
C181, C452, C477, C903	CEAL470M16
C130, C201, C209, C211, C253	CEAL470M6R3
C323, C368, C431, C502, C512	CEAL470M6R3
C515, C520, C553, C559, C566	CEAL470M6R3
C308	CEAL4R7M50
C207, C233, C252, C257, C403	CKSQYB102K50
C407, C501, C517	CKSQYB102K50
C109, C110, C112, C128, C206	CKSQYB103K50
C226, C230, C231, C251, C324	CKSQYB103K50
C412, C454-C459, C470-C473	CKSQYB103K50
C505, C510, C558, C567, C934	CKSQYB103K50
C142, C151, C182, C224, C225	CKSQYB104K25
C361, C364, C453, C476, C504	CKSQYB104K25
C932	CKSQYB104K25
C105, C116, C127, C232, C258	CKSQYB105K10
C514, C557	CKSQYB105K10
C208, C414	CKSQYB152K50
C155, C156, C203	CKSQYB223K50
C113-C115, C117, C118	CKSQYB224K16
C304, C305, C460, C462	CKSQYB224K16
C212, C451	CKSQYB272K50
C104, C221	CKSQYB331K50
C103	CKSQYB333K50
C131, C215, C227-C229	CKSQYB334K16
C134, C363, C474, C475	CKSQYB471K50
C413	CKSQYB473K25
C102, C141	CKSQYB473K50
C119, C204, C468, C469	CKSQYB681K50
C463, C464	CKSQYB682K50
C205	CKSQYB683K25
C133, C144, C153, C254, C303	CKSQYF103Z50
C322, C362, C416, C433, C519	CKSQYF103Z50
C521, C555, C561, C562	CKSQYF103Z50
C568, C569, C905	CKSQYF103Z50
C106, C108, C111, C120, C123	CKSQYF104Z25
C125, C129, C132, C143, C152	CKSQYF104Z25
C154, C158, C161, C202, C210	CKSQYF104Z25
C214, C217, C255, C260-C262	CKSQYF104Z25

Mark	No.	Description	Part No.
	C301, C302, C306, C309, C310		CKSQYF104Z25
	C312, C313, C326, C365-C367		CKSQYF104Z25
	C369, C371, C402, C405		CKSQYF104Z25
	C410, C411, C415, C432		CKSQYF104Z25
	C466, C467, C503, C506, C509		CKSQYF104Z25
	C511, C513, C516, C523, C524		CKSQYF104Z25
	C552, C554, C560, C565, C572		CKSQYF104Z25
	C522, C525		CKSQYF104Z50
	C124, C328, C570, C904		CKSQYF473Z25
	C325 (1F/5.5V)		VCH1039

RESISTORS

R113, R441, R442, R514 (330Ω)	ACN7054
R308, R417 (470Ω)	ACN7056
R313, R570 (47kΩ)	ACN7077
R401, R416, R433 (100Ω)	DCN1092
R507 (220Ω)	DCN1093
R371, R372, R501 (10kΩ)	DCN1094
R181 (4.7kΩ)	DCN1100
R143 (2.2kΩ)	PCN1039
R468, R470, R476, R478	RN1/10SE1002D
R477, R479	RN1/10SE1202D
R464, R466	RN1/10SE2202D
R469, R471	RN1/10SE5102D
R465, R467	RN1/10SK2003D
VR101, VR161-VR164 (4.7kΩ)	VCP1154
VR141 (22kΩ)	VCP1158
Other Resistors	RS1/10S□□□J

OTHERS

CN453	KR CONNECTOR 2P	B2B-PH-K-S
CN451	KR CONNECTOR 3P	B3B-PH-K-S
CN901	KR CONNECTOR 6P	S6B-PH-K-S
CN502	8P FFC CONNECTOR	VKN1268
CN301	15P FFC CONNECTOR	VKN1275
CN501	21P FFC CONNECTOR	VKN1281
CN101	32P FFC CONNECTOR	VKN1463
KN101, KN321, KN501, KN901	EARTH METAL FITTING	VNF1084
X501	CRYSTAL (16.9344MHz)	PSS1008
X301	CERAMIC (32MHz)	PSS1023

B SERVO MECHANISM ASSY**SEMICONDUCTORS**

PC651	NJL5803K-F1
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SWITCHES AND RELAYS

S601	PSG1013
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RESISTORS

All Resistors	RD1/4PU□□□J
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OTHERS

J601	JUMPER WIRE	D20PWW0305E
CN601	KR CONNECTOR 9P	S9B-PH-K-S

C LOADING A ASSY**OTHERS**

CN501	KR CONNECTOR 3P	S3B-PH-K-S
501		VSK1011

PDR-W739

Mark	No.	Description	Part No.
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D LOADING B ASSY

OTHERS	CN551	KR CONNECTOR 2P	B2B-PH-K-S
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E MOTOR UNIT

SWITCHES AND RELAYS	S106		DSG1016
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OTHERS		4P CABLE HOLDER	51048-0600
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F LOADING UNIT

SWITCHES AND RELAYS	S104, S105		ASG7018
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OTHERS		4P CABLE HOLDER	51048-0400
		6P CABLE HOLDER	51048-0600
	J101	4P JUMPER WIRE	D20PDD0420E
	J102	6P JUMPER WIRE	D20PDD0615E

G SELECT UNIT

SWITCHES AND RELAYS	S102		ASG7019
	S101		ASG7022
	S103		DSG1016

OTHERS		4P CABLE HOLDER	51048-0400
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H MAIN ASSY

(1) CONTRAST TABLE

PWX1619 and PWX1618 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		PWX1618	PWX1619	
	IC801	PCM1716E	PE8001A	
	C1332, 1344	CKSQYB102K50	Not used	
	R1571	Not used	RS1/10S103J	
	R1572	RS1/10S103J	Not used	

(2) PARTS LIST FOR PWX1618

SEMICONDUCTORS

IC802	AK5353VT
IC1302	BA6417F
IC1101	CXA2570N
IC1201	CXD2585Q
IC1504-IC1506	HD74HC4053FP
IC1301	M56788FP
IC803	PCM1716E
IC1402	PD5574A
IC1401	PE5148A
IC801	PCM1716E
IC1403	S-806E
IC1502, IC1509	SN74HC00ANS
IC804	SN74HC165ANS
IC1507	SN74HC74ANS
IC1503, IC1508	TC74HCU04AF

Mark	No.	Description	Part No.
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Q1101	2SA854S
Q1102, Q802-Q804	DTA124EK
Q801	DTC124EK
D1201-D1203, D801-D806	1SS355
D1402-D1405	DA204K
D851	DAN202K
D1343	S5566G

COILS AND FILTERS

F7438, F7439, F7441, F7461, F7463	DTF1064
F7494-F7499 CHIP BEAD	DTF1064
L7202-L7205, L901, L902, L9506	DTL1058
CHIP COIL	
L1102, L1202, L1231, L1232, L1401	OTL1040
L1403, L1504, L1507, L801, L802	OTL1040
L861, L903 CHIP SOLID INDUCTOR	OTL1040
L1501 CHIP COIL	VTL1064
L7516 CHIP BEADS	VTL1098

CAPACITORS

C7508, C7804, C7902, C7903	CCSQCH101J50
C814-C816, C929, C939	CCSQCH101J50
C1503	CCSQCH102J50
C1121, C1505	CCSQCH220J50
C1239, C1246	CCSQCH221J50
C1247, C933, C969	CCSQCH471J50
C1504	CCSQCH7R0D50
C1324, C1343	CEJA100M16
C1101, C1108, C1201, C1203, C1233	CEJA101M10
C1242, C1249, C1401, C1407, C1507	CEJA101M10
C1513	CEJA101M10
C1321	CEJA101M16
C909, C910	CEJA220M50
C801, C808, C822, C867, C868	CEJA221M6R3
C899	CEJA221M6R3
C812, C813, C823, C825, C826	CEJA470M10
C848, C849, C871, C872	CEJA470M10
C810, C811, C869, C870	CEJA4R7M25
C1238	CEJAR47M50
C1311, C818, C819, C846, C1332	CKSQYB102K50

C930-C932, C941-C945, C968, C1344	CKSQYB102K50
C1237	CKSQYB103K50
C1114, C1245, C1410	CKSQYB104K25
C1248	CKSQYB122K50
C1236	CKSQYB152K50
C1231, C840, C841	CKSQYB222K50
C1319, C1320	CKSQYB333K50
C964	CKSQYB472K50
C1235	CKSQYB473K50
C1303, C1304, C1307, C1308	CKSQYB821K50

C1116, C1122-C1125, C1351-C1354	CKSQYF103Z50
C901, C903, C906, C907, C919	CKSQYF103Z50
C924, C928	CKSQYF103Z50
C1107, C1109, C1112, C1113, C1202	CKSQYF104Z25
C1204-C1206, C1234, C1241	CKSQYF104Z25

C1250, C1251, C1253, C1276	CKSQYF104Z25
C1322, C1323, C1325, C1402-C1406	CKSQYF104Z25
C1408, C1409, C1506, C1508, C1512	CKSQYF104Z25
C1521-C1523, C802, C804, C805	CKSQYF104Z25
C807, C809, C824, C827-C829	CKSQYF104Z25

C842, C851, C861-C865	CKSQYF104Z25
C904, C905, C940, C946	CKSQYF104Z25
C951, C952, C959, C961, C962	CKSQYF104Z25
C9999	CKSQYF104Z25
C1510, C1514, C1516, C1518, C955	CKSQYF105Z16

Mark	No.	Description	Part No.
	C960		CKSQYF105Z16
	C1345, C1346		CKSQYF473Z50

RESISTORS

R1331	RD1/4VM471J
R1319, R1320	RS1/10S1802F
R1301, R1302	RS1/10S3002F
R1317, R1318	RS1/10S4702F
R1303, R1304	RS1/10S6201F

Other Resistors	RS1/10S□□□J
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OTHERS

CN1101	FFC CONNECTOR 16P	52030-1610
CN1403	FFC CONNECTOR 8P	52045-0845
CN802	3P JUMPER CONNECTOR	52147-0310
CN1402	FFC CONNECTOR 20P	9604S-20C
CN801	FFC CONNECTOR 32P	9604S-32C

X1501	XTAL RESONATOR (33.8688MHz)	ASS7002
X1402	CERAMIC RESONATOR (16MHz)	ASS7020
CN1301	KR CONNECTOR	B6B-PH-K-S

	PCB BOARD	PNP1472
CN1502	FFC CONNECTOR 8P	VKN1239
CN1401	FFC CONNECTOR 15P	VKN1246
CN1501	FFC CONNECTOR 21P	VKN1252
KN801, KN901	EARTH METAL FITTING	VNF1084

X1401	CERAMIC RESONATOR (4.19MHz)	VSS1014
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I OPT I/O ASSY**SEMICONDUCTORS**

IC651	SN74HCU04ANS
Q651	DTA114TK

COILS AND FILTERS

L656	CHIP COIL	DTL1058
L651, L654, L657, L8651		OTL1040
L655	CHIP SOLID INDUCTOR COIL	PTL1003

CAPACITORS

C657	CCSQCH470J50
C663	CCSQCH471J50
C651, C660, C667	CEAT101M16
C666	CEAT330M25
C654	CKSQYB102K50

C655, C665	CKSQYB103K50
C664	CKSQYB104K25
C652, C659, C669	CKSQYF104Z25

RESISTORS

All Resistors	RS1/10S□□□J
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OTHERS

JA602	2P PIN JACK	DKB1027
JA603	OPTICAL LINK OUT	GP1F32T
JA600	OPTICAL RECEIV MOD.	GP1F37R
CN600	6P SOCKET	KP200TA6L

J TRANS ASSY

Although PWZ4087 and PWZ4070 are different in part number, they consist of the same components.

Mark	No.	Description	Part No.
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PARTS LIST FOR PWZ4070**CAPACITORS**

C10-C25	CKSQYF103Z50
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K PRIMARY ASSY**(1) CONTRAST TABLE**

PWZ4084 and PWZ4069 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		PWZ4069	PWZ4084	
	AN1 AC INLET 1P	AKP7032	BKP1046	C1, C2
	CAPACITOR COVER	Not used	REC-150	

(2) PARTS LIST FOR PWZ4069**SWITCHES AND RELAYS**

△ S1	RSA1001
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COILS AND FILTERS

△ L1 FILTER	VTL-262
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CAPACITORS

△ C1, C2, C3 (10000pF/AC250V)	ACG7020
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OTHERS

△ AN1	AC INLET 1P	AKP7032
△ J2	LEAD WIRE UNIT	DB415NB0
△ J1	LEAD WIRE UNIT	DB915NB0
H1, H2	FUSE CLIP	AKR7001

L HEAD PHONE ASSY**COILS AND FILTERS**

L1690-L1692 CHIP COIL	DTL1058
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CAPACITORS

C1690, C1692, C1695	CCSQCH101J50
C1691, C1693, C1694	CKSQYF103Z50

RESISTORS

VR1690 (500Ω-B×2)	RCV1123
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OTHERS

	3P CABLE HOLDER	51048-0300
J1690	JUMPER WIRE 3P	D20PY0310E
JA1690	H.P. JACK	RKN1002
KN1690	EARTH METAL FITTING	VNF1084

M POWER SUPPLY ASSY

Although PWZ4083 and PWZ4068 are different in part number, they consist of the same components.

PARTS LIST FOR PWZ4068**SEMICONDUCTORS**

△ IC33, IC35, IC38 (750mA)	AEK7007
△ IC30, IC32, IC37 (1.25A)	AEK7010
△ IC34, IC36, IC39	BA05T
IC1630	M5218AP
IC1651, IC1652	NJM2121D

IC1600, IC1650	NJM4558DX
△ IC31	NJM7805FA
△ IC40	NJM7806FA
Q1650-Q1653, Q1690	2SC2412K
Q1600, Q1601	2SD2114K

PDR-W739

Mark	No.	Description	Part No.
Δ	Q1602, Q1654		DTC124EK
	D1650, D1651, D1680, D1682		1SS355
	D34, D35		D5SBA20
	D1600, D1681		DAP202K
	D30-D33, D36		S5566G

D37	UDZS9.1B
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COILS AND FILTERS

L1680, L1681	CHIP COIL	DTL1058
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CAPACITORS

C1608, C1609, C1650, C1651	CCSQCH101J50
C1662, C1663, C46, C48-C51	CCSQCH101J50
C1707, C1708	CCSQCH102J50
C1652, C1653	CCSQCH220J50
C1656, C1657	CCSQCH470J50

C1654, C1655, C1658, C1660, C1661	CEAT100M50
C1664, C1665, C1670-C1672	CEAT100M50
C1606, C1607, C31, C34, C35	CEAT101M16
C37, C45	CEAT101M16
C38	CEAT101M50

C32	CEAT102M16
C33	CEAT103M16
C1610, C1611, C1630, C1631	CEAT221M25
C1666, C1667	CEAT221M25
C1659	CEAT330M25

C1699	CEAT330M35
C30	CEAT332M16
C36	CEAT682M16
C1705, C1706	CKSQYB102K50
C1697, C1698	CKSQYB391K50

C1681, C1682	CKSQYF103Z50
C1704, C39-C42, C44	CKSQYF104Z25
C1700, C1701	CKSQYF104Z50
C1600-C1605	CQMBA152J50
C1675, C1676	CQMBA222J50

C1673, C1674	CQMBA821J50
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RESISTORS

R1620	RD1/2VM122J
R1618, R1619, R1640, R1641	RD1/4VM101J
R1679, R1680	RD1/4VM101J
R1607, R1608	RN1/10SE1002D
R1606, R1609	RN1/10SE1202D

Other Resistors	RS1/10S□□□J
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OTHERS

CN30	10P CABLE HOLDER	51048-1000
	FFC CONNECTOR 32P	9604S-32C
	HEAT SINK (L)	ANH-575
	HEAT SINK B	ANH1021
CN33	KR CONNECTOR	B6B-PH-K-S
J33	JUMPER WIRE 10P	D20PYY1015E
CN31	6P PLUG	KM200TA6
JA1600	4P PIN JACK	PKB1016
JA1680	JACK/12V	PKN1004
KN30-KN33	EARTH METAL FITTING	VNF1084

OPERATING1 ASSY

(1) CONTRAST TABLE

PWZ4073 and PWZ4065 are constructed the same except for the following :

Mark	No.	Description	Part No.	
Mark	Symbol and Description	Part No.		Remarks
	D701-D706	SLR-343DC	SLR-343MC	
	R737-R742	RS1/10S221J	RS1/10S121J	

(2) PARTS LIST FOR PWZ4065

SEMICONDUCTORS

IC701	LC75710NE
Q705-Q707	2SC2412K
Q701-Q704, Q708	DTC143EK
D701-D706	SLR-343DC
D707, D708, D711	SLR-343VC

COILS AND FILTERS

F8733-F8735	CHIP BEAD	DTF1064
L703, L704	CHIP SOLID INDUCTOR	OTL1040

SWITCHES AND RELAYS

S701	PSB1009
S702, S703, S711-S728	VSG1009

CAPACITORS

C705	CCSQCH300J50
C701, C703	CEJA101M10
C712, C713	CKSQYF103Z50
C702, C704, C706, C707, C710	CKSQYF104Z50
C716	CKSQYF104Z50

RESISTORS

R774, R775, R777	RA15T473J
R776	RA9T473J
Other Resistors	RS1/10S□□□J

OTHERS

CN702	3PJUMPER CONNECTOR	52151-0310
CN701	FFC CONNECTOR 20P	9604S-20C
	REMOTE RECEIVER UNIT	GP1U27X
V701	FL INDICATOR TUBE	PEL1100

OPERATING2 ASSY

SWITCHES AND RELAYS

S704-S708	VSG1009
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RESISTORS

All Resistors	RS1/10S□□□J
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OTHERS

J703	3P CABLE HOLDER	51048-0300
	JUMPER WIRE 3P	D20PYY0310E

OPERATING3 ASSY

SWITCHES AND RELAYS

S709, S710, S730	VSG1009
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RESISTORS

All Resistors	RS1/10S□□□J
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OTHERS

J705	3P CABLE HOLDER	51048-0300
	JUMPER WIRE 3P	D20PYY0310E

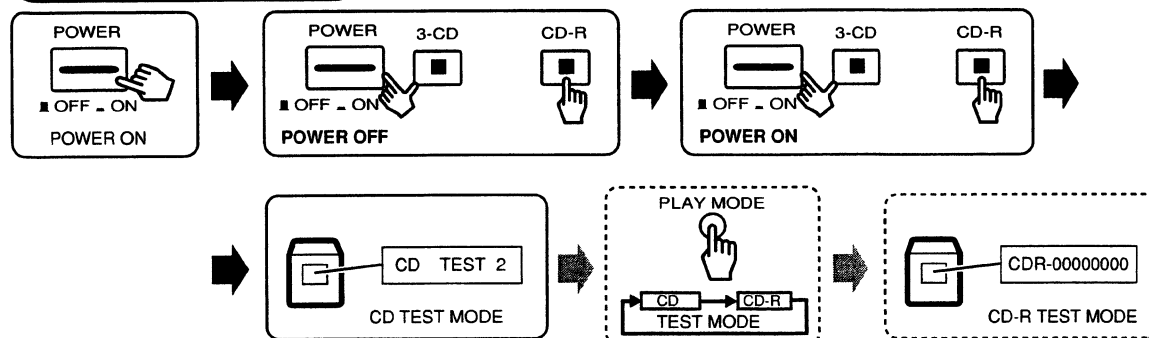
6. ADJUSTMENT

● CD TEST MODE

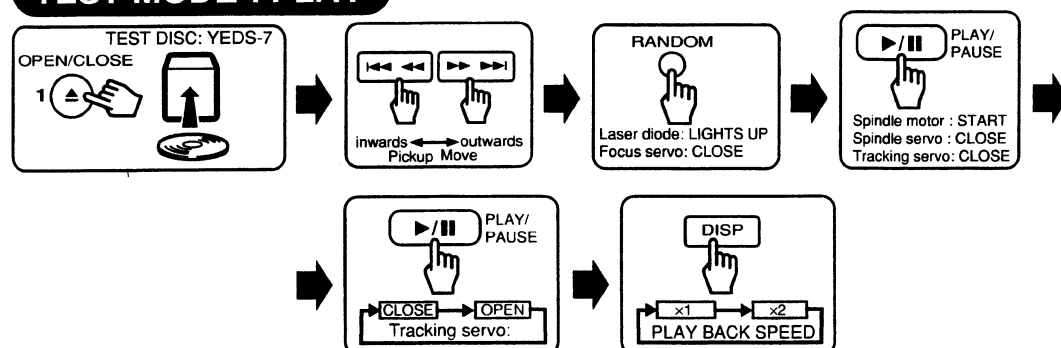
NOTE: There is no information to be shown in this CD adjustment.

● How to Start/Cancel Test Mode

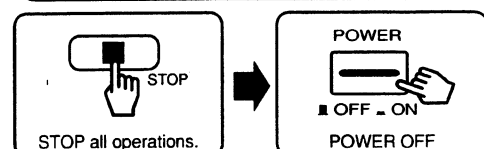
TEST MODE : ON



TEST MODE : PLAY



TEST MODE : STOP CANCEL



● CD-R ADJUSTMENT

6.1 DISCS TO BE USED

- When adjusting the servo system adjustment
CD : Test disc for adjustment (STD-903, STD-905 or equivalent)

6.2 MEASURING INSTRUMENTS

- Laser Power Meter
Following power meter manufactured by Advantest Corporation or equivalent :
TQ8210 + TQ82017
TQ8215 + TQ82021
TQ8215 + TQ82010 + TQ82017
LE8010 (by LEADER)
- Oscilloscope
- CD Jitter Meter

6.3 TEST MODE

6.3.1 Test Mode

For adjustment, set the unit to Test mode. To enter Test mode,

- Power supply ON is done.
- The power supply is turned off with "STOP" key to 3-CD and "STOP" key to CD-R pushed.
- Again, the power supply is turned on with two "STOP" keys pushed.

It is displayed that the display part of this machine is "CD TEST 2" when becoming a test mode (CD test mode).

When not becoming this display, the power supply is turned off and the above-mentioned is repeated.

Next, this machine is switched to the CD-R test mode pushing "PLAY MODE" key.

The display becomes "CDR-00000000".

6.3.2 Operations in Test Mode

In Test mode, the following adjustment functions are assigned to the buttons, as explained below.

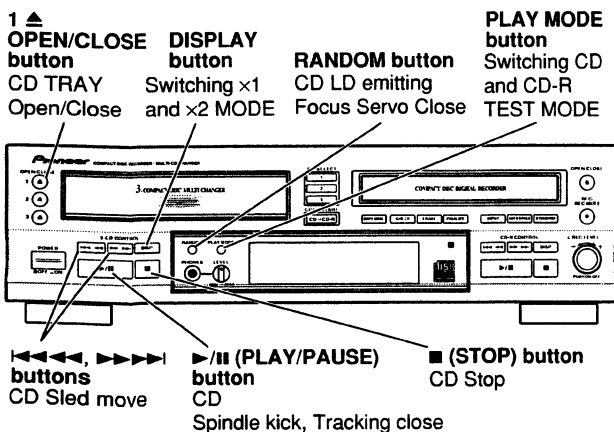


Fig.1 3-CD TEST MODE

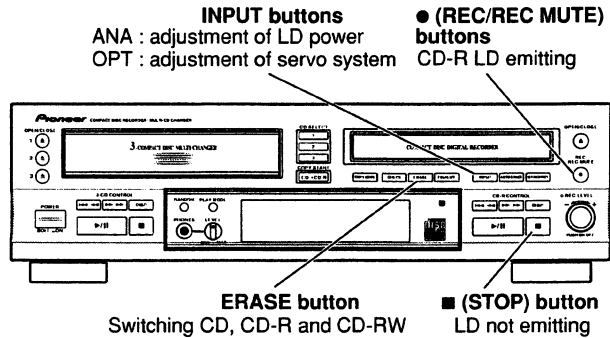


Fig.2 During adjustment of LD power
(Input selector: analog)

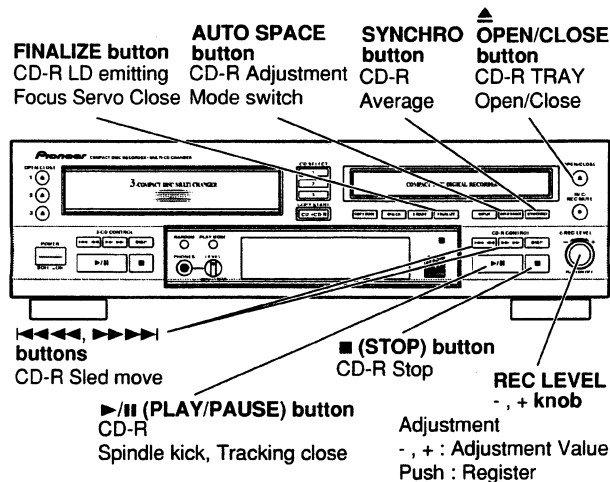
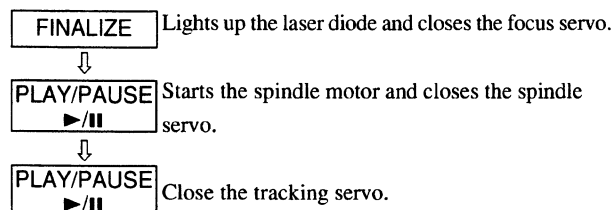


Fig.3 During adjustment of servo system
(Input selector: optical)

6.3.3 How to Playback a Disc in Test Mode

In test mode, since the servos operate independently, playing back a disc requires that you operate the keys in the correct order to close the servos.

Here is the key operation sequence for playing back a disc in test mode.



Wait at least 2 – 3 seconds between each of these operations.

6.4 ADJUSTMENT 1 (LASER DIODE POWER ADJUSTMENT)

CD-R CORE ASSY

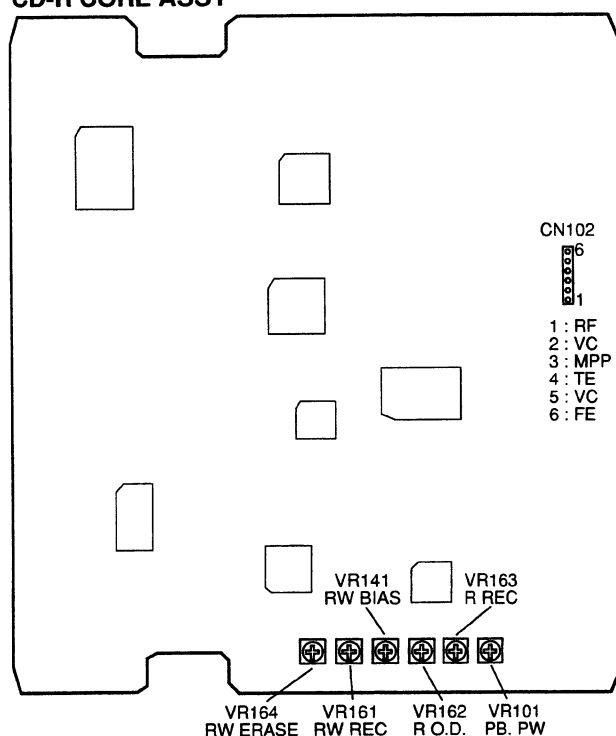


Fig. 4 Adjustment points

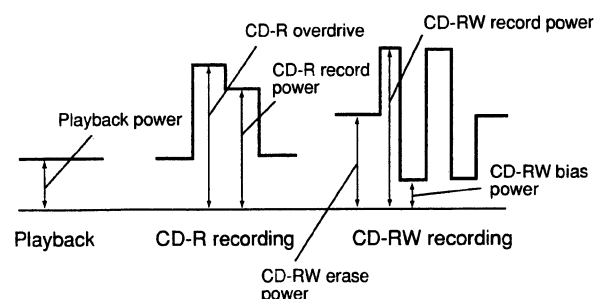


Fig.5 Output power of the laser diode

- Note 1 : Attach the remote sensor of the laser power meter to a point angled away about 10 degrees against the pickup lens and where the maximum power is detected, so that there will be no light reflected onto the pickup.
- Note 2 : When adjusting with VRs, first turn them completely counter-clockwise and then adjust clockwise, so that the value to be reached is not exceeded.
- Note 3 : Set the wavelength of laser power meter to 780 nm.
- Note 4 : Picking up is moved to the position adjusted easily pushing "◀◀◀◀" or "▶▶▶▶" key.

**DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.**

6.4.1 Playback Power Adjustment

Test Point	Pickup objective lens
Adjustment Point	VR101 (PB. PW)
Adjustment Value	0.90 mW $\pm$ 0.05 mW
[Procedure] (1) Check that "CD" is displayed on the FL display. If "CD-R" or "CD-RW" is displayed, press the STOP button repeatedly until "CD" is displayed. (2) pushes continuing REC/REC MUTE key twice. The LD is emitting in this status. Playback Power Adjustment (3) Turn VR101 clockwise until the adjustment value to be reached is obtained. (4) Press the STOP button to shut off the LD.	

**DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.**

6.4.2 CD-R Record Power Adjustment

Test Point	Pickup objective lens
Adjustment Point	VR163 (R REC), VR162 (R O.D.)
Adjustment Value	VR163 : 4.80 mW $\pm$ 0.1 mW VR162 : Addition of 0.1 mW $\pm$ 0.01 mW to the adjustment value of VR163
[Procedure] (1) Turn VR163 and VR162 completely counterclockwise to set their power output to minimum. (2) Press the ERASE button once so that "CD-R" appears on the FL display. If the indication is "CD" or "CD-RW," press the ERASE button repeatedly until "CD-R" is displayed on the FL display. (3) Press continuing the REC/REC MUTE button twice. The LD is emitting in this status. Adjustment of CD-R record power (4) Turn VR163 clockwise until the adjusted value is 4.80 mW $\pm$ 0.1 mW. Adjustment of CD-R overdrive power (5) Turn VR162 clockwise until the adjusted value becomes adjustment value at Step (4) above + (0.1 mW $\pm$ 0.01 mW). (6) Press the STOP button to shut off the LD.	

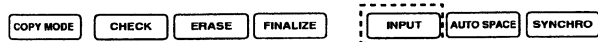
**DANGER – LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.**

6.4.3 CD-RW Record Power Adjustment

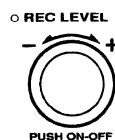
Test Point	Pickup objective lens
Adjustment Point	VR141 (RW BIAS), VR161 (RW REC), VR164 (RW ERASE)
Adjustment Value	VR141 : 0.60 mW $\pm$ 0.05 mW VR161 : 1.30 mW $\pm$ 0.1 mW VR164 : 5.60 mW $\pm$ 0.1 mW
[Procedure] (1) Turn VR141, VR161 and VR164 completely counterclockwise to set their power output to minimum. (2) Press the ERASE button twice so that "CD-RW" appears on the FL display. If the indication is "CD" or "CD-R," press the ERASE button repeatedly until "CD-RW" appears on the FL display. (3) Press continuing the REC/REC MUTE button twice. The LD is emitting in this status. Adjustment of BIAS power (4) Turn VR141 clockwise until the adjusted value is 0.60 mW $\pm$ 0.05 mW. Adjustment of CD-RW record power (5) Turn VR161 clockwise until the adjusted value is 1.30 mW $\pm$ 0.1 mW. Adjustment of CD-RW erase power (6) Turn VR164 clockwise until the adjusted value is 5.60 mW $\pm$ 0.1 mW. (7) Press the STOP button to shut off the LD.	

6.5 ADJUSTMENT 2 (SERVO SYSTEM ADJUSTMENT)

For servo adjustment, set the INPUT SELECTOR to OPTICAL.



Use the REC LEVEL Knob to make the adjustments.



To register an adjustment, press the REC LEVEL Knob.



To reset the adjusted values to the initial settings, press and hold the COPY MODE button for 4 seconds.
And, the SYNCHRO key is pushed afterwards.
The power supply is turned off afterwards, and the power supply is turned on again. And, the readjusted thing.



CD-R CORE ASSY

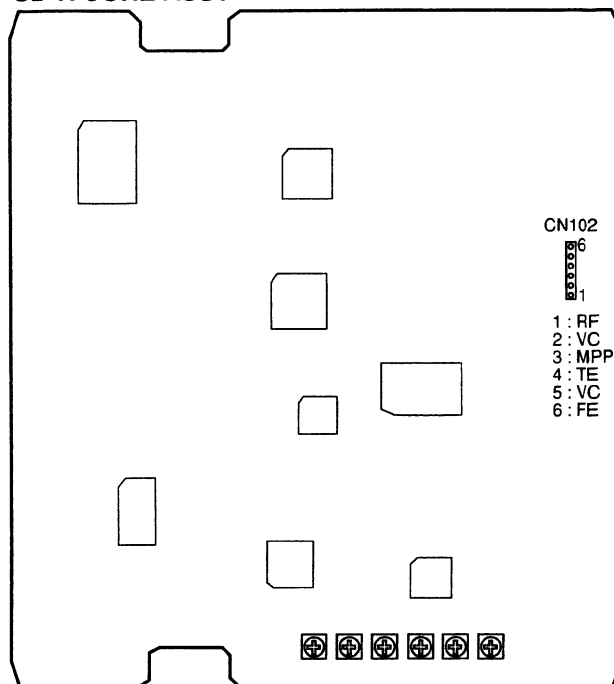


Fig. 6 Adjustment points

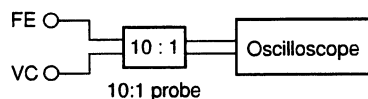
6.5.1 Focus Offset Adjustment

Test Point	CN102 - pin 6 (FE)
Adjustment Point	REC LEVEL knob
Adjustment Value	0 mV $\pm$ 10 mV
Symptom when out of adjustment	The model does not focus-in

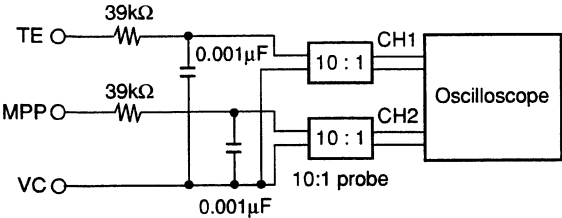
[Procedure]

- (1) Press the AUTO SPACE button until "CDR 01ff4**" appears on the FL display.
- (2) Adjust with the REC LEVEL knob until the value for Pin 6 of CN102 is 0 mV $\pm$ 10 mV.
- (3) Press the REC LEVEL knob to register the adjustment.

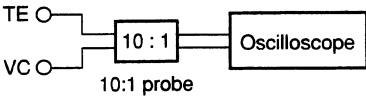
Once the adjustment is registered with the REC LEVEL knob, "ERASE" on the FL display will disappear.



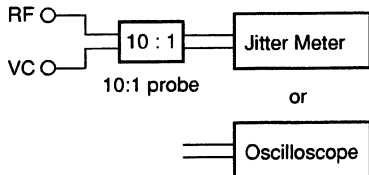
6.5.2 M-S Mix Ratio Adjustment

Test Point	CN102 - pin 4 (TE) and pin 3 (MPP)
Adjustment Point	REC LEVEL knob
Adjustment Value	Adjust until the value of the output signals from pin 4 (TE) and pin 3 (MPP) of CN102 are the same, or the differential output of these signals is minimal.
Symptom when out of adjustment	Sound broken, record characteristics deteriorate
[Procedure] (1) Press the AUTO SPACE button so that "CDR f2ff3**" appears on the FL display. (2) Press the FINALIZE button for focus-in. (3) Press the PLAY/PAUSE ►/⏸ button for CAV-servo spindle kick (the status where the spindle rotates with the focus servo on and tracking servo off). (4) Adjust with the REC LEVEL knob until the value to be reached is obtained. (5) Press the REC LEVEL knob to register the adjustment. Once the adjustment is registered with the REC LEVEL knob, "ERASE" on the FL display will disappear. (6) Press the STOP button to stop the unit. Note: For adjustment, use the following circuits.  Note: Adjustment must be done around mid-radius on a disc.	

6.5.3 Tracking Offset Adjustment

Test Point	CN102 - pin 4 (TE)
Adjustment Point	REC LEVEL knob
Adjustment Value	0 mV ± 10 mV
[Procedure] (1) Press the AUTO SPACE button so that "CDR 03fff6**" appears on the FL display. (2) Adjust with the REC LEVEL knob until the above adjustment value to be reached is obtained. (3) Press the REC LEVEL knob to register the adjustment. Once the adjustment is registered with the REC LEVEL knob, "ERASE" on the FL display will disappear.  Note: Perform the adjustment in Stop mode. This adjustment is possible with the low-pass filter used in adjustment 6.5.2 above attached.	

6.5.4 Focus Bias Adjustment

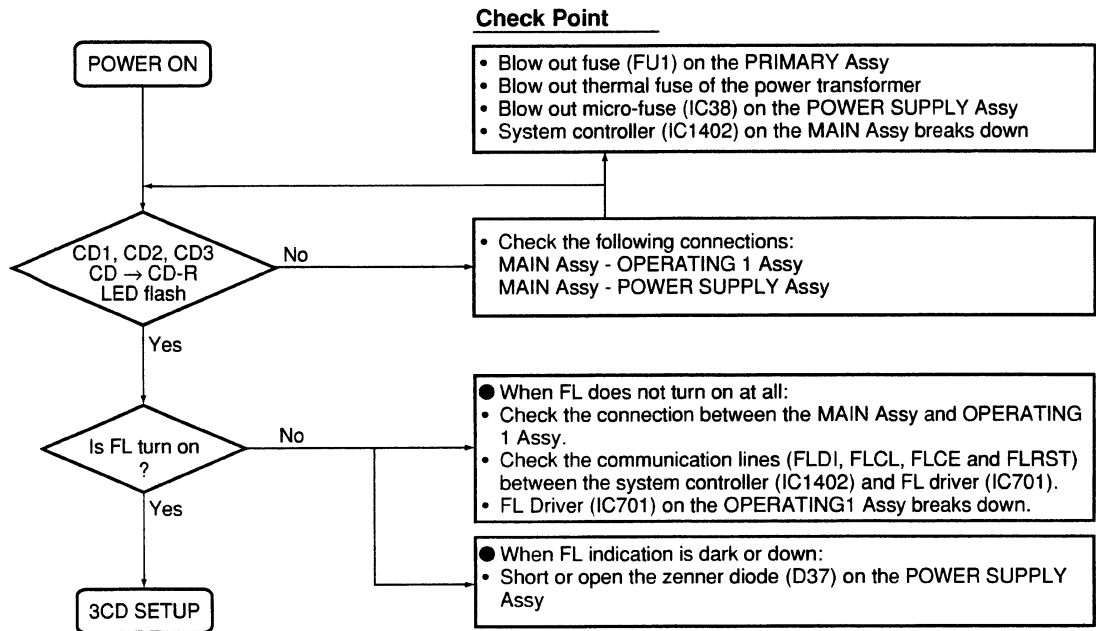
Test Point	CN102 - pin 1 (RF)
Adjustment Point	SYNCHRO button, REC LEVEL knob
Adjustment Value	Adjust until RF jitter is minimal or that the eye pattern of the RF waveform is most open.
Symptom when out of adjustment	Sound broken, record characteristics deteriorate
[Procedure] (1) Press the SYNCHRO button in <u>Stop mode</u>. Note: Make sure the unit is in Stop mode. (2) Check that "OPT" disappears on the FL display. (3) Press the AUTO SPACE button so that "CDR 04ff34**" appears on the FL display. (4) Press the FINALIZE button for focus-in. (5) Press the PLAY/PAUSE ►/ button for CAV-servo spindle kick. (6) Press the PLAY/PAUSE ►/ button to close the tracking servo, then set the unit to Playback mode. (7) Adjust with the REC LEVEL knob until the above adjustment value to be reached is obtained. Press the REC LEVEL knob to register the adjustment. Once the adjustment is registered with the REC LEVEL knob, "ERASE" on the FL display will disappear. (8) Press the STOP button to stop the unit.  <pre> graph LR RF((RF)) --- P[10:1 probe] VC((VC)) --- P P --- JM[Jitter Meter] P --- O[Oscilloscope] JM --- O style O fill:none,stroke:none </pre> The diagram illustrates the test setup for focus bias adjustment. It shows two input signals, RF and VC, connected to a 10:1 probe. The output of the probe can be connected to either a Jitter Meter or an Oscilloscope. The text 'or' is placed between the two options. Note: Adjustment must be done around mid-radius on a disc.	

7. GENERAL INFORMATION

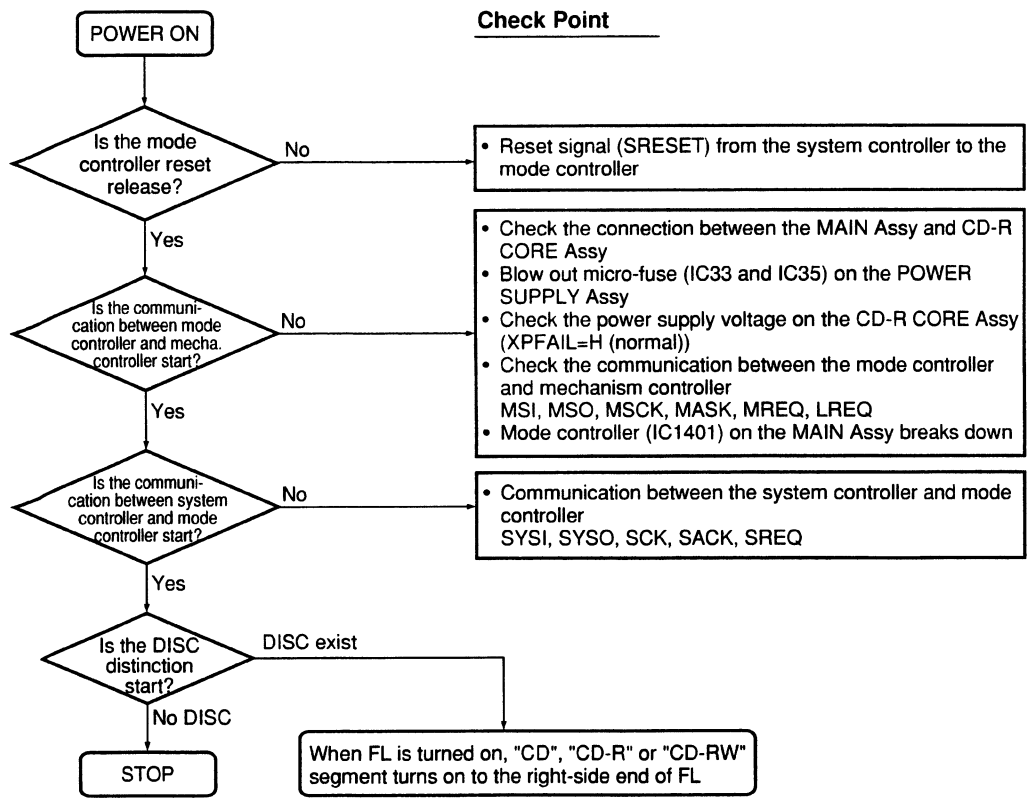
7.1 DIAGNOSIS

7.1.1 SEQUENCE AFTER THE POWER ON

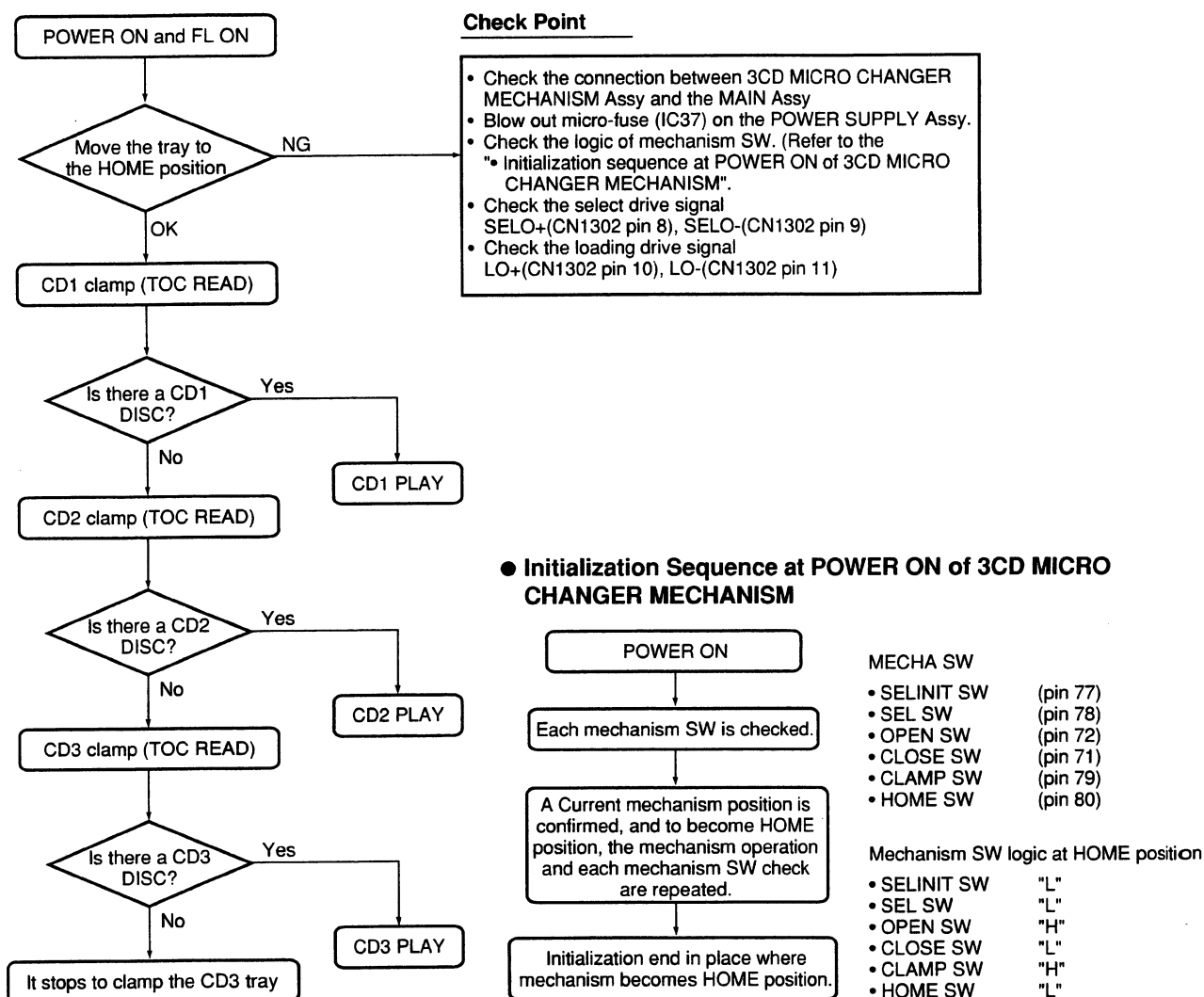
POWER ON SEQUENCE (Display System)



SETUP SEQUENCE (CD-R)



SETUP SEQUENCE (3CD)



Setting the initial condition for shipping

Setting the initial operating condition

Item	Initial condition
Input selector	ANALOG
REC level	0 dB

The factory default settings shall be as above.

For reason that this product memorizes the condition of above items by back-up battery.

Adjusting the shipping position of mechanism.

Before shipping, it is necessary to adjust the shipping position of the mechanism. See following.

< CD-R tray mechanism >

1. Open CD-R tray and remove a disc.
2. Push OPEN/CLOSE button and wait until CD-R mechanism is stopped.

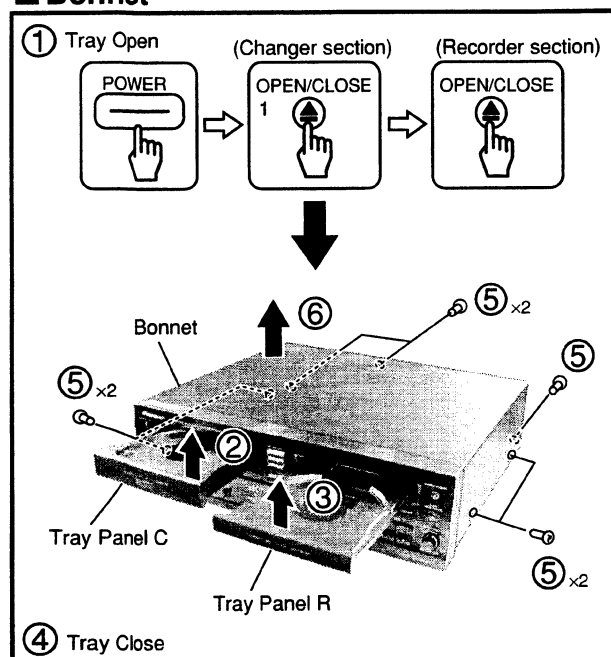
< 3CD changer mechanism >

1. Open the tray; CD1-CD3, and remove all discs. And close the tray.
2. Once turn off the power, then turn on again.
3. Wait until DISC1 to 3 indicators on the FL display, see right, are put out all and the mechanism is stopped.
4. ON pushing "REC LEVEL knob", and push "OPEN/CLOSE 1(3CD side)" key both.
→ "OK!" is displayed on the FL display, then the mechanism is set to the shipping position.
5. Turn off the power.

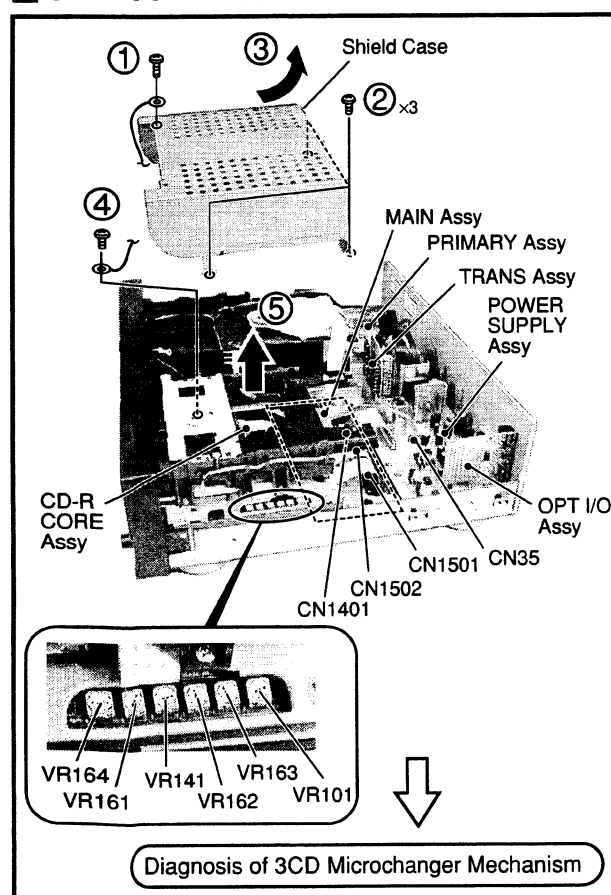
DISC ①
DISC ②
DISC ③

7.1.2 DISASSEMBLY

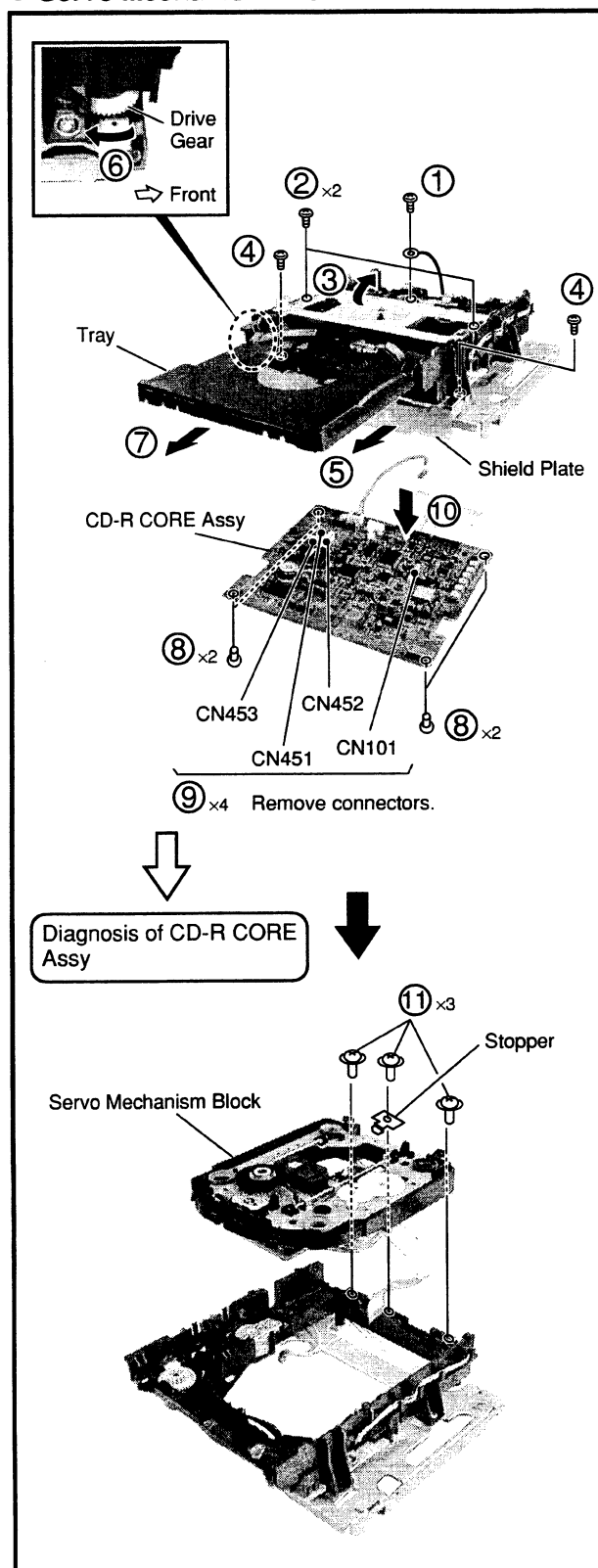
■ Bonnet



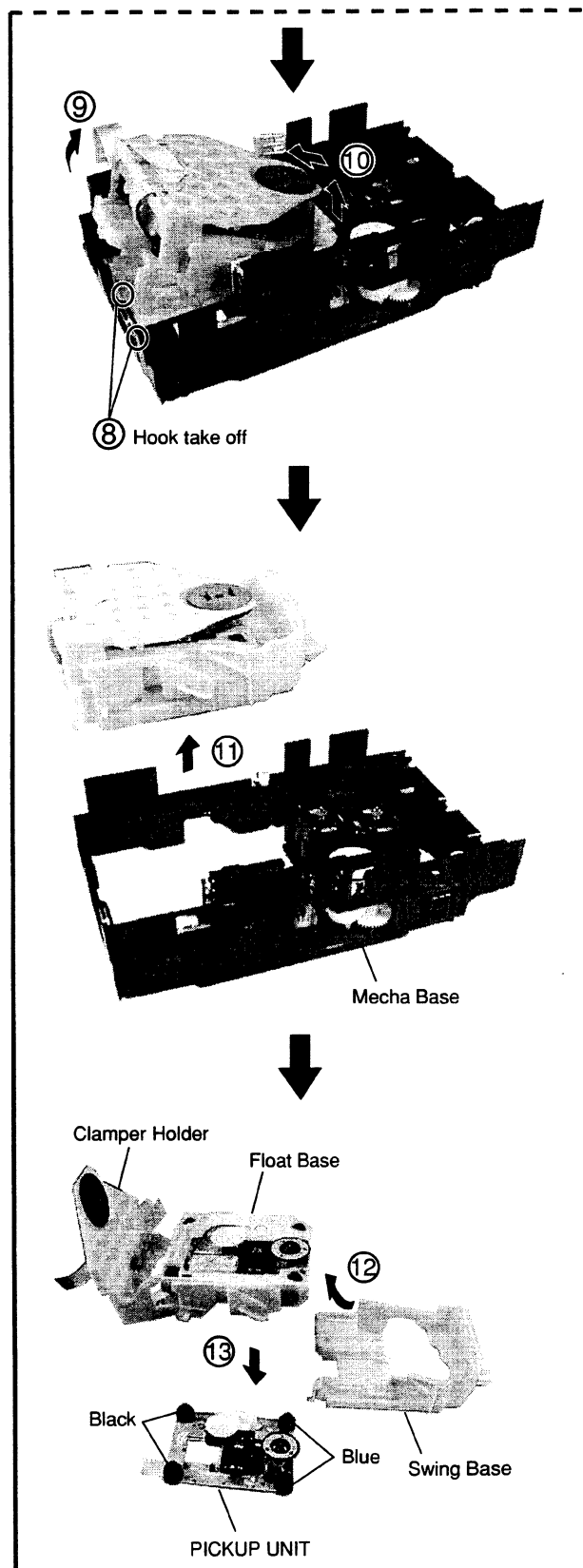
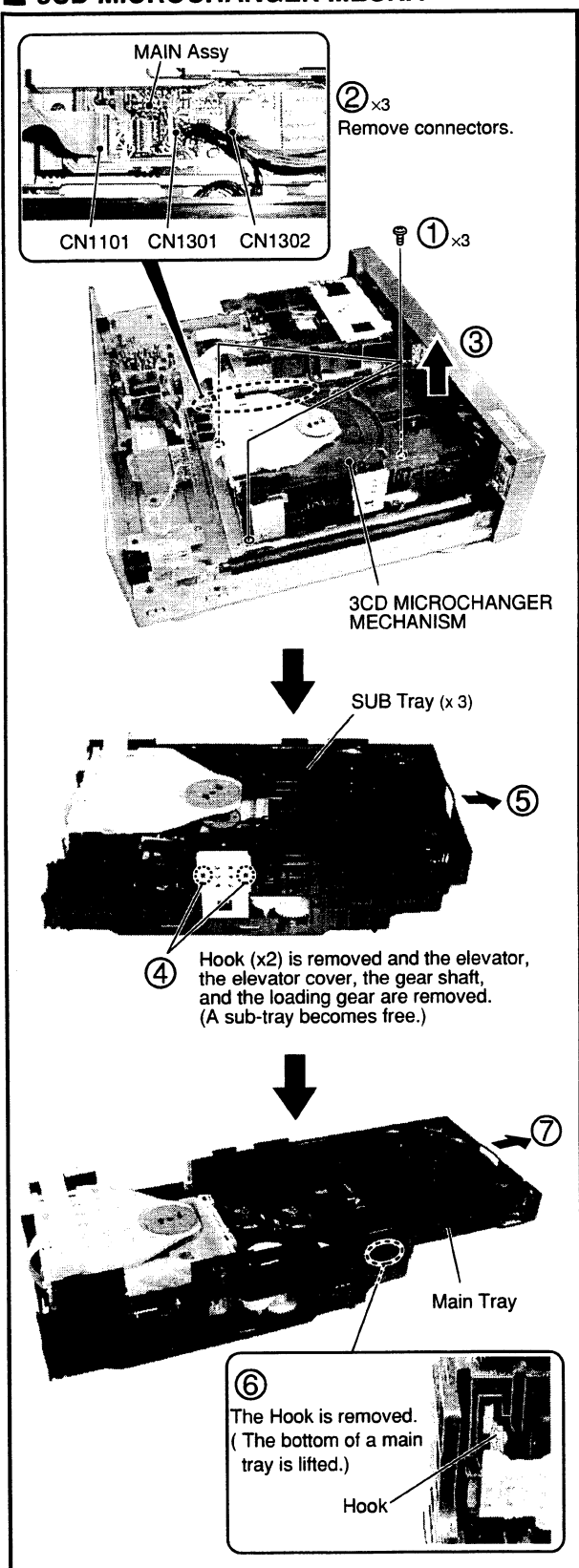
■ **CD-R CORE ASSY**



● Servo Mechanism Block

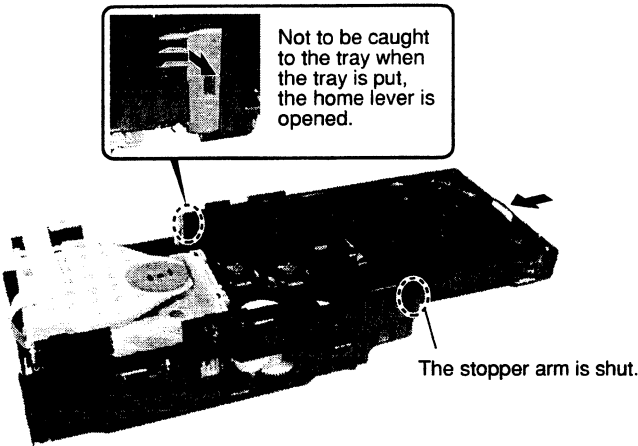


3CD MICROCHANGER MECHA

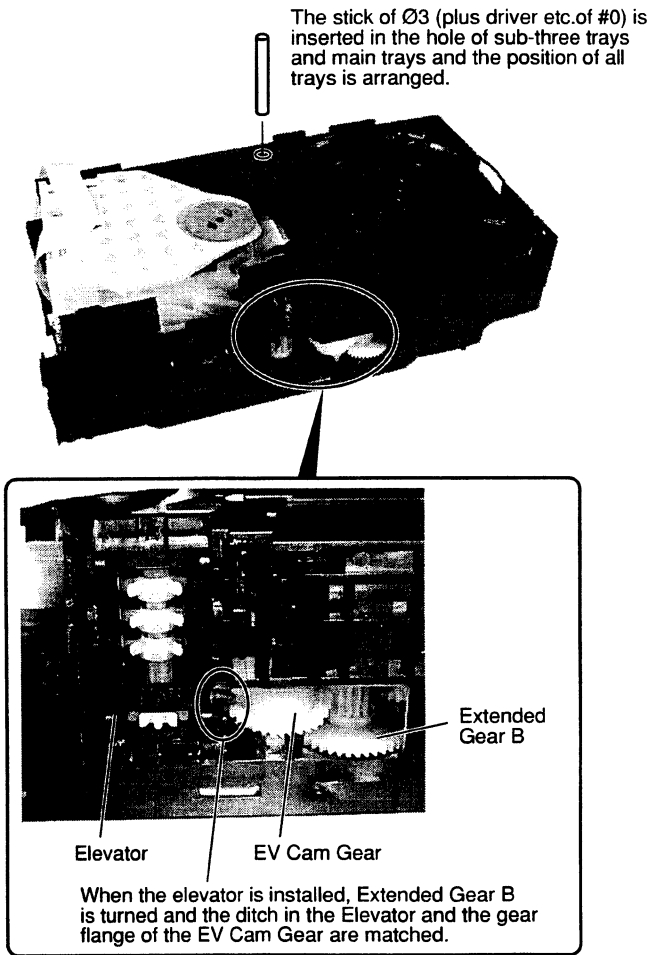


● Attention when 3CD MICROCHANGER MECHA is assembled

① Tray installation



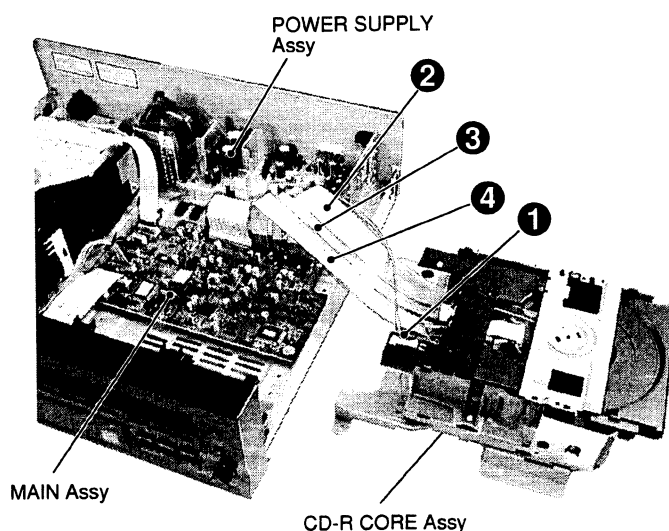
② Gear match of sub-tray



7.1.3 DIAGNOSIS OF 3CD MICROCHANGER MECHANISM and MAIN ASSY

When diagnosing the 3CD Microchanger Mechanism and MAIN Assy, use the following Flexible Cables and Connector Assy for service.
(When you diagnose only 3CD Microchanger Mechanism, the product operates with CD-R CORE ASSY removed.)

- ① Remove the CD-R CORE Assy.
- ② Replace four cables (① ~ ④) for service and diagnose it.



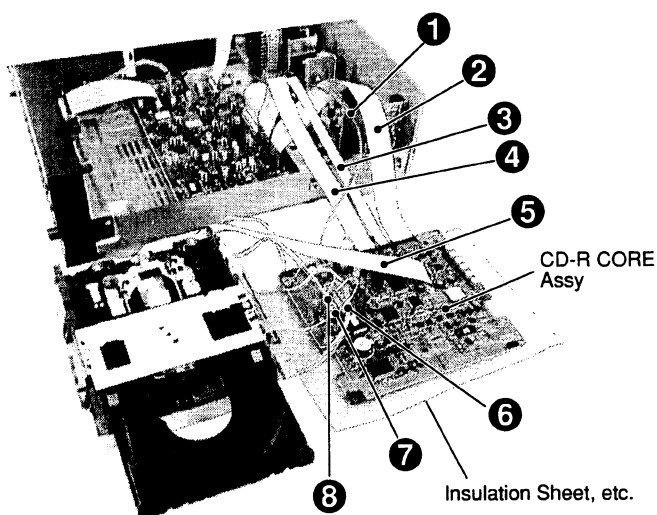
• Flexible Cables and Connector Assy for service
CD-R CORE Assy ↔ Other Assys

- ① CN901 ↔ CN33 (POWER SUPPLY Assy)
Connector Assy (6P) : PG06KK2E30
- ② CN501 ↔ CN1501 (MAIN Assy)
21P FFC/30V : PDD1210
- ③ CN502 ↔ CN1502 (MAIN Assy)
8P FFC/30V : PDD1211
- ④ CN301 ↔ CN1401 (MAIN Assy)
15P FFC/30V : PDD1212

7.1.4 DIAGNOSIS OF CD-R CORE ASSY

When diagnosing the CD-R CORE Assy, use the following Flexible Cables and Connector Assys for service.

- ① Remove the CD-R CORE Assy. (Refer to the Disassembly of the CD-R CORE Assy and steps ① to ⑩ of the Servo Mechanism Block.
- ② Replace seven cables (① ~ ⑦) for service and diagnose it.



• Flexible Cables and Connector Assys for service
CD-R CORE Assy ↔ Other Assys

- ① CN901 ↔ CN33 (POWER SUPPLY Assy)
Connector Assy (6P) : PG06KK2E30
- ② CN501 ↔ CN1501 (MAIN Assy)
21P FFC/30V : PDD1210
- ③ CN502 ↔ CN1502 (MAIN Assy)
8P FFC/30V : PDD1211
- ④ CN301 ↔ CN1401 (MAIN Assy)
15P FFC/30V : PDD1212
- ⑤ CN101 ↔ CN1 (CD-R Pickup)
32P FFC/30V : PDD1202
- ⑥ CN452 ↔ CN601 (SERVO MECHANISM Assy)
Connector Assy (9P) : PG09KK-E35
- ⑦ CN453 ↔ CN501 (LOADING B Assy)
Connector Assy (2P) : PG02KK-E35

Caution :

- ⑧ CN451 ↔ CN501 (LOADING A Assy)
This connector (3P) uses the one installed in the product.

Note :

The cable ⑤ ⑥ ⑦ is the same as the cable for service for PDR-509.

7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

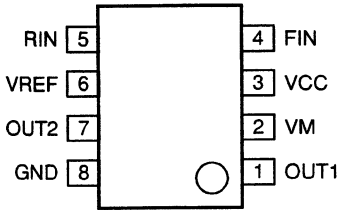
•List of IC

BA6417F, NJM2121D, PD9020A, PE5147B, PE5148A, PE5574A, AK5353VT

■ BA6417F (MAIN ASSY : IC1302)

• Motor Drive IC

• Pin Connection (Top view)



• Pin Function

No.	Pin Name	Pin Function
1	OUT1	Motor output pin
2	VM	Power supply pin of the motor section
3	VCC	Power supply pin
4	FIN	Logic input pin
5	RIN	Logic input pin
6	VREF	Output High voltage setting pin
7	OUT2	Motor output pin
8	GND	GND pin

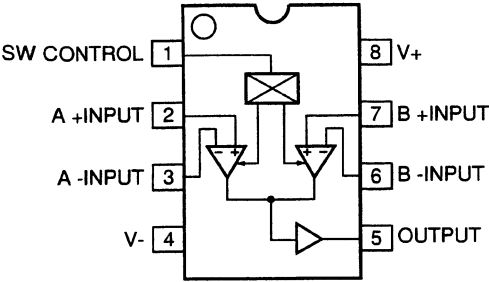
• Logic table of Input/Output

FIN	RIN	OUT2	OUT1	Mode
H	L	L	H	Positive mode
L	H	H	L	Reverse mode
H	H	L	L	Brake mode
L	L	OPEN	OPEN	Standby mode

■ NJM2121D (POWER SUPPLY ASSY : IC1651, IC1652)

• Switching OP Amp

•Pin Connection (Top view)



■ PD9020A (CD-R CORE ASSY : IC431)

• Strategy Control IC

•Pin Function

No.	Pin Name	I/O	Pin Function
1	ENBL	I	LD driver control H: ON
2	XRESET	I	Reset L: Reset
3	GND	–	Ground
4	CK34M	I	34.574MHz input
5	GND	–	Ground
6	CK17M	O	2 dividing output of CK34M
7	GND	–	Ground
8	WFPDSH	O	Sample pulse output for Write APC
9	RWXR	I	CD-R/CD-RW switch
10	SAMPLE	O	Sample hold pulse output
11	N.C.	–	Not used
12	OPCSH	O	Sample hold pulse output for OPC
13	EFMIN	I	EFM input
14	ROPC2	I	Sample hold pulse setting for running OPC
15	CK4M	I	4.3218MHz input
16	ROPC2	I	Sample hold pulse setting for running OPC
17	N.C.	–	Not used
18	GND	–	Ground
19	N.C.	–	Not used
20	VDD	–	Power supply
21	RECE	I	Recording enable signal input
22	MODFRQ	I	Frequency setting of high-frequency overlap H : High
23	N.C.	–	Not used
24	N.C.	–	Not used
25	MODON	I	High-frequency overlap control H: ON, Open: OFF
26	MODAMP	I	Amplitude setting of high-frequency overlap H: Low
27	I3T1	I	3T-pit signal pulse width control of W-XR output
28	I3T2		
29	NT1	I	Pit length setting of W-XR output
30	VDD	–	Power supply
31	GND	–	Ground
32	NT2	I	Pit length setting of W-XR output
33	ODON	O	Overdrive control H: Overdrive ON
34	WXR	O	Writing/Reading signal output H: Writing
35	WLDON	O	Write LD control
36	REWLDON	O	CD, CD-R/CD-RW switch
37	OD1	I	Overdrive setting
38	OD2		
39	OD3		
40	OD4		
41	ERASE	I	ERASE control
42	VDD	–	Power supply
43	GND	–	Ground
44	DOUBLE	I	Norma/Double speed control switch H: Double speed
45	4T	I	Pulse width control of 4T pit
46	CFREQ	O	Frequency switching output of high-frequency overlap H: High
47	CMOD	O	Amplitude switching output of high-frequency overlap H: Large
48	OSCEN	O	Oscillation control of high-frequency overlap H: ON

■ PE5147B (CD-R CORE ASSY : IC301)

• Mechanism Control IC

• Pin Function

No.	Mark	Pin Name	I/O	Pin Function
1	P32/XCLK0/SCL	MSCK	I/O	Serial transfer clock output of clock synchronous system (Set to Input port at not used.)
2	P33/SO0/SDA	MSO	I/O	Serial transfer data output of clock synchronous system (Set to Input port at not used.)
3	P34/TO0	EECS	O	Enable output for writing and reading of the EEPROM data
4	P35/TO1	MREQ	O	Serial hand shake to the mode controller "L"
5	P36/TO2	FOK	I	FOCUS OK input ("L" FOCUS OK)
6	P37/TO3	LRST	O	Reset output for the servo and digital system ICs ("L" Reset)
7	XRESET	XRESET	I	Reset input ("L" Reset)
8	VDD1	+5V	-	+5V
9	X2	CLOCK	-	Crystal input for system clock (32MHz)
10	X1	CLOCK	-	Crystal output for system clock (32MHz)
11	VSS1	GND	-	GND
12	P00	XECE	O	Enable output for reading the jig for test "L"
13	P01	RECE	O	Laser diode recording power ON/OFF ON "H"
14	P02	XAMUTE	O	AUDIO last stage mute "L" (according to the mode controller) MUTE ON: during REC/PAUSE, at input selector switch and during STOP
15	P03	TP302	O	"L" outputs
16	P04	TP303	O	"L" outputs
17	P05	XEXSC	O	External sync enable output of LC89585 "L"
18	P06	XASYNC	O	ATIP frame sync "L"
19	P07	XENCE	O(I)	Serial enable output of LC89585 "H" (Set to Input port at not used.)
20	P67/XREFRQ/HLDAK	TP305	O	MODE Controller Main Loop outputs
21	P66/XWAIT/HLDRQ	2SPDL	O	Normal speed/double speed operating mode output (at double speed "H")
22	P65/XWR	XWR	O	Strobe signal output for read operation of the external memory
23	P64/XRD	XRD	O	Strobe signal output for write operation of the external memory
24	P63/A19	XLT	O	Latch output of CXD2585Q command
25	P62/A18	SSCK	O	Serial clock output for CXD2585Q command
26	P61/A17	SSO	O	Serial data output for CXD2585Q command
27	P60/A16	ALAT	O	Latch output for AK8563 command
28	P57/A15	SCLK	O	Serial clock output for serial readout of CXD2585Q
29	P56/A14	ENBL	O	Laser diode ON/OFF ON "H"
30	P55/A13	TP307	O	"L" outputs
31	P54/A12	LDPW4	O	Recording laser power monitor output
32	P53/A11	LDPW3		
33	P52/A10	LDPW2		
34	P51/A9	LDPW1		
35	P50/A8	LDPW0		
36	P47/AD7	AD7	O	Data address line
37	P46/AD6	AD6		
38	P45/AD5	AD5		
39	P44/AD4	AD4		
40	P43/AD3	AD3		

No.	Mark	Pin Name	I/O	Pin Function
41	P42/AD2	AD2	O	Data address line
42	P41/AD1	AD1		
43	P40/AD0	AD0		
44	ASTB/CLKOUT	ASTB	O	External latch signal of lower address signal for external memory access
45	Vss0	GND	–	GND
46	TEST	GND	–	GND
47	P10/PWM0	SPSP	O(A)	Spindle drive PWM output in the Spindle CAV
48	P11/PWM1	LPWM	O(A)	Loading motor output (PWM) AT PWM is not used "H" (fixed to "H")
49	P12/ASCK2/XSCK2	SQCK	O	Serial clock output for sub-Q of CXD2585Q
50	P13/RXD2/SI2	SQSI	I	Serial data input for sub-Q of CXD2585Q
51	P14/TXD2/SO2	SO2	O	Serial data output
52	P15	DUB	O	(Encoder LSI) Input switch for CD decoder (LC89585) (select the core inside at adjustment "H")
53	P16	TP315	O	"L" outputs
54	P17	RFEQON	I	Equalizer ON/OFF switch of RF processor IC (Normal ON "L")
55	VDD0	+5V	–	+5V
56	P70/ANI0	TEPP	I(A)	Tracking error peak to peak (for tracking gain adjustment)
57	P71/ANI1	RFT	I(A)	A/D input of upper side envelope of Playback RF
58	P72/ANI2	RFB	I(A)	A/D input of lower side envelope of Playback RF
59	P73/ANI3	TEMP	I(A)	A/D input of temperature sensor
60	P74/ANI4	RFOPC	I(A)	RFOPC/MPXOUT A/D input
61	P75/ANI5	AOUT	I(A)	AOUT A/D input
62	P76/ANI6	TRAY	I(A)	A/D input of loading position (OPEN/CLAMP)
63	P77/ANI7	AD7	I(A)	Not used
64	AVDD	Avdd	–	+5V
65	AVREF1	Avref1	–	+5V
66	AVSS	AVss	–	GND
67	ANO0	WREF	O(A)	Recording power 1
68	ANO1	VWDC2R	O(A)	Outputs for strategy setting
69	AVREF2	AVref2	–	+5V
70	AVREF3	AVref3	–	GND
71	P20/NMI	XPFAIL	I	Power failure detection
72	P21/INTP0	FG	I	Spindle FG detection
73	P22/INTP1	ATIP	I	ATIP SYNC detection
74	P23/INTP2/C1	SCOR	I	EFM decoder frame sync detection
75	P24/INTP3	SUBSYNC	I	EFM decoder frame sync detection
76	P25/INTP4/ASCK/-XSCK1	XRFDI	I	EFM playback RF detection
77	P26/INTP5	SENS	I	CXD2585Q SENS input
78	P27/SI0	MSI	I	Serial transfer DATA input of the clock sync. system
79	P30/RXD/SI1	MACK	I	Serial hand shake CLOCK input to the mode controller
80	P31/TXD/SO1	XFUSE	I	"L" during communicate with the mode controller

Note: (A) in item I/O shows "ANALOG".

■ PE5148A (MAIN ASSY : IC1401)

• Mode control IC

● Pin Function

No.	Mark	Pin Name	I/O	Pin Function	No.	Mark	Pin Name	I/O	Pin Function
1	P94	—	O	Not used (L output)	41	P32	MACK	O	Response for mechanism controller communication
2	P93	—			42	P31	LREQ	I	CE signal for LC89585
3	P92	—			43	P30	UNLOCK	I	Digital unlock detection
4	P91	—			44	P03	—	I/O	Not used
5	P90	—			45	INTP2	XPFAIL	I	Power down detection (interrupt)
6	P81	DEMPH	O	Emphasis output (H: deemphasis ON)	46	INTP1	MREQ	I	Mecha. controller communication request (interrupt)
7	P80	—	O	Not used (L output)	47	INTP0	REMIN	I	Remote control input (for interrupt and RID code writing)
8	VDD	VDD	—	Connect to VDD	48	IC	GND	I	Connect to GND
9	SCK0	SCK	O	Serial communication clock of system controller	49	P72	—	O	Not used (L output)
10	SO0	MOD0 (SYSI)	O	Serial communication output of system controller	50	P71	—	O	Not used (L output)
11	SI0	MOD1 (YSO)	I	Serial communication input of system controller	51	P70	—		
12	P24	—	O	Not used (L output)	52	VDD	VDD	—	Connect to VDD
13	P23	—	O		53	P127	—	O	Not used (L output)
14	SCK1	FSCK	I/O	Serial communication clock of mecha. controller and LSI	54	P126	—		
15	SO1	FSO	O	Serial communication output of mecha. controller and LSI	55	P125	—		
16	SI1	FSI	I	Serial communication input of mecha. controller and LSI	56	P124	—		
17	RESET	SRESET	I	Mode controller reset input	57	P123	—		
18	P74	—	O	Not used (L output)	58	P122	—		
19	P73	—	O		59	P121	—		
20	AVSS	GND	—	Connect to GND	60	P120	—		
21	P17	XFUSE	O	During use the serial communication between mode controller and LC89585 (During use : L)	61	P117	—		
22	P16	DUB	O	Switch at COPY operation	62	P116	—		
23	P15	XVCO	O	PLL ON/OFF (for SRC ON/OFF at SRC OFF: L)	63	P115	—		
24	P14	FS/XHR	O	SRC through output (at 44.1kHz: L)	64	P114	—		
25	P13	SREQ	O	Serial communication request output of the system controller	65	P113	—		
26	P12	XRST	O	Reset for mecha. controller and ATIP decoder Release reset : H	66	P112	—		
27	P11	XOPT	O	Optical input selection (at selecting the optical digital input : L)	67	P111	—		
28	P10	—	O	Not used (L output)	68	P110	—		
29	AVDD	VDD	—	Connect to VDD	69	P107	—		
30	AVREF	VSS	—	Connect to GND	70	P106	—		
31	P04	—	I	Not used	71	VLOAD	VLOAD	—	Connect to GND
32	XT2	—	O	Not used	72	P105	—	O	Not used (L output)
33	VSS	GND	—	Connect to GND	73	P104	—		
34	X1	X1	I	System oscillation 4.19MHz	74	P103	—		
35	X2	X2	O		75	P102	—		
36	P37	STBY SW A	I	Pull-up connect to VDD	76	P101	—		
37	P36	STBY SW B	I	Pull-up connect to VDD	77	P100	—		
38	P35	STBY SW C	I	Pull-down connect to VDD	78	P97	—		
39	P34	STBY SW D	I	Pull-up connect to VDD	79	P96	—		
40	P33	SACK	I	Response for system controller communication	80	P95	—		

PD5574A (MAIN ASSY : IC1402)

• System Control IC

•Pin Function

No.	Mark	Pin Name	I/O	Pin Function
1	SOUT4	FLDI	O	Serial data output for FL driver
2	CLK4	FLCL	O	Serial clock output for FL driver
3	TB4IN	FLCE	O	Latch output for FL driver
4	P93	CDXRESET	O	Reset signal for CD decoder and Motor driver
5	P92	–	O	Not used (L outputs)
6	SIN3	CDSQSO	I	Serial data input for CD Q-data read
7	CLK3	CDSQCK	O	Serial clock output for CD Q-data read
8	BYTE	VSS	I	Connect to GND
9	CNVSS	CNVSS	I	Pull-down connect to GND
10	P87	CDSSENS	I	CD decoder sens signal input
11	P86	CDLDON	I/O	CD LD ON/OFF (L: CD, H: CD-RW, IN: OFF)
12	RESET	RESET	I	System reset input
13	XOUT	XOUT	O	System oscillation 16MHz
14	VSS	VSS		Connect to GND
15	XIN	XIN	I	System oscillation 16MHz
16	VCC	VCC		Connect to VDD
17	P85	VCC	I	Connect to VDD
18	P84	–	O	Not used (L outputs)
19	INT1	RMDT	I	Remote control input
20	INT0	CDSCOR	I	CD decoder frame sync.
21	P81	CDDCLK	O	Serial clock output for CD decoder command
22	P80	CDXLAT	O	Latch output for CD decoder command
23	P77	CDDATA	O	Serial data output for CD decoder command
24	P76	CDSCLK	O	Serial clock output for serial read-out of CD decoder
25	P75	–	O	Not used (L outputs)
26	P74	ADPD1	O	Reset output of A/D converter
27	P73	–	O	Not used (L outputs)
28	P72	SYSMUTE	O	Forced line out output mute of the system controller
29	P71	–	O	Not used (L outputs)
30	P70	–	O	
31	TXD1	FLASH TXD1	I	
32	RXD1	FLASH RXD1	I	
33	CLK1	FLASH CLK1	I	Not used (Flash write)
34	RTS1	FLASH RTS1	O	
35	TXD0	YSO(MDI)	O	Serial communication output with the mode controller
36	RXD0	YSI(MDO)	I	Serial communication input with the mode controller
37	CLK0	SCK	I	Serial communication clock with the mode controller
38	P60/CTS0/RTS0	SACK	O	Response for mode controller communication
39	P57/RDY/CLKOUT	SREQ	I	Request for mode controller communication
40	P56	SRESET	O	Mode controller reset output

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No.	Mark	Pin Name	I/O	Pin Function
41	P55/HOLD	GND	I	GND (Flash write)
42	P54	ALCOFF	O	Auto Level Control OFF signal output (H: OFF)
43	P53	DLAT1	O	DAC latch output for LINE OUT output
44	P52	DAXRST1	O	DAC reset output for LINE OUT output
45	P51	DACDATA	O	DAC serial data output for DAC and Copy for LINE OUT output
46	P50/WRL/WR	V+5DSM	I	VDD (Flash write)
47	P47	DAXRST2	O	DAC reset output for Copy
48	P46	DLAT2	O	DAC latch output for Copy
49	P45	–	O	Not used (L outputs)
50	P44	DACCLK	O	DAC serial clock output for DAC and Copy for LINE OUT output
51	P43	LGTSW	I	Legate existence (H: legate exist)
52	P42	–	O	Not used (L outputs)
53	P41	–	O	
54	P40	2XSEL	O	Playback speed change SW of CD normal-double speed (L: double speed)
55	P37	33/16C	O	Normal-double speed change SW of D/A converter and D/A converter (H: double speed)
56	P36	–	O	Not used (L outputs)
57	P35	–	O	
58	P34	MDACK	O	System operation switch
59	P33	SW4	O	
60	P32	SW3	O	
61	P31	SW2	O	
62	VCC	VCC		Connect to VDD
63	P30	SW1	O	System operation switch
64	VSS	VSS	I	Connect to GND
65	P27	AMUTES	O	LINE OUT output mute
66	P26	DEMPH	I	CD-R emphasis input
67	P25	LOADIN	O	Loading drive control of the 3CD mechanism
68	P24	LOADOUT	O	
69	P23	XTEST	I	Not used (TEST pin for the unit checker)
70	P22	CDINSIDE	I	3CD mechanism SW (Innermost of the pickup: L)
71	P21	CDCLOSE	I	3CD mechanism SW (CD tray close complete: L)
72	P20	CDOPEN	I	3CD mechanism SW (CD tray open complete: L)
73	P17	–	O	Not used (L outputs)
74	P16	–	O	
75	INT3	ENC1	I	Rotary encoder
76	P14	SELRENT	I	Model switch (H: Rental Copy exist, L: Rental Copy not exist)
77	P13	SELIN	I	3CD mechanism SW (Select position detection)
78	P12	SEL	I	
79	P11	CLAMP	I	3CD mechanism SW (Clamp complete: L)
80	P10	HOME	I	3CD mechanism SW (Tray position detection)

No.	Mark	Pin Name	I/O	Pin Function
81	P07	SELI+	O	Select drive control of the 3CD mechanism
82	P06	SELI-	O	
83	P05	DRVMT	O	Loading drive mute signal of the 3CD mechanism
84	P04	LEDVOL	O	"REC VOL FIX" LED light output
85	P03	LEDCD1	O	"DISC 1" LED light output of the 3CD
86	P02	LEDCD2	O	"DISC 2" LED light output of the 3CD
87	P01	LEDCD3	O	"DISC 3" LED light output of the 3CD
88	P00	LEDR	O	"CD → CD-R" LED light output of COPY
89	P107/AN7/KI/O	ENC2	I	Rotary encoder
90	P106	–	O	Not used (L outputs)
91	P105	–	O	
92	P104	–	O	
93	AN3	KEYAD1	I	Key A/D input
94	AN2	KEYAD2	I	
95	AN1	KEYAD3	I	
96	AVSS	VSS	I	Connect to GND
97	AN0	KEYAD4	I	Key A/D input (Not used: pull-down connect to GND)
98	VREF	VCC	I	Connect to VDD
99	AVCC	VCC	I	
100	P97	FLRST	O	Reset output for FL driver

Logic Table of the System SW

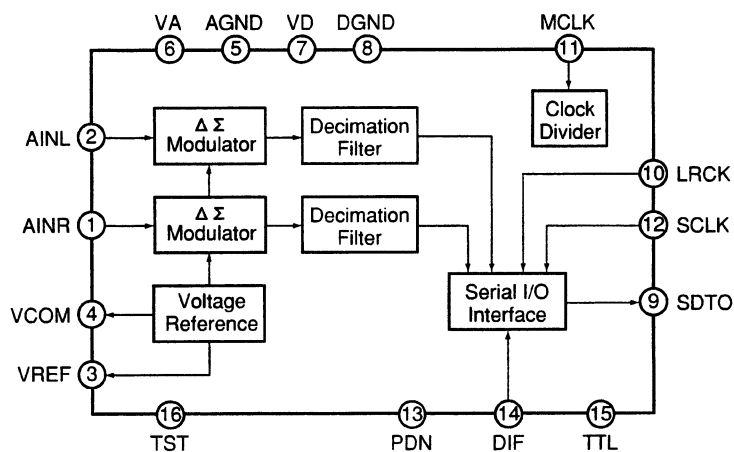
H=5V L=0V

States	Pin No.	IC1505 PIN 9,10,11	IC1506 PIN 9,10,11	IC1504 PIN 9,10,11	CN30 PIN 27	IC1509 PIN 2,12	IC1502 PIN 10,12	Q1102 BASE	IC802 PIN 13	CN1401 PIN 15	IC1401 PIN 13
	Pin Name	SW1	SW2	SW3	SW4	MDACK	33/16C	2XSEL	ADPD1	DUB	XVCO
PLAY at CD side		H	L	H	L	L	L	H	H	H	H
CD DIG COPY of normal speed		L	H	H	H	L	L	H	H	H	H
CD ANA COPY of normal speed		L	H	L	H	L	L	H	H	H	H
CD DIG COPY of double speed		L	H	H	H	L	H	L	H	H	H
CD ANA COPY of double speed		L	H	L	H	L	H	L	H	H	H
PLAY at CD-R side		L	L	H	L	L	L	H	H	L	H
External ANA input REC		L	L	H	L	L	L	H	H	L	H
External DIG input REC (fs=44.1kHz)		L	L	H	L	H	L	H	H	L	L
External DIG input REC (fs=32.48kHz)		L	L	H	L	H	L	H	H	L	H

AK5353VT (MAIN ASSY : IC802)

• A/D Converter IC

•Block Diagram



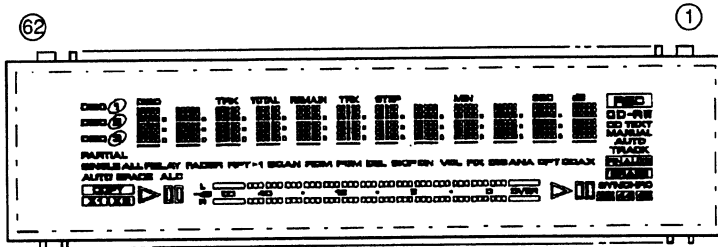
•Pin Function

No.	Pin Name	I/O	Pin Function
1	AINR	I	R ch analog input
2	AINL	I	L ch analog input
3	VREF	O	Reference voltage output
4	VCOM	O	Common voltage output
5	AGND	-	Analog ground
6	VA	-	Analog power supply +2.7V to 5.5V
7	VD	-	Digital power supply +2.7V to 5.5V
8	DGND	-	Digital ground
9	SDTO	O	Serial data output Data outputs as 2's complement and MSB first. at power down: L
10	LRCK	I	L/R channel clock input Inputs fs clock.
11	MCLK	I	Master clock input
12	SCLK	I	Serial data clock input A/D data outputs at falling edge of SCLK.
13	PDN	I	Power down input L: power down mode Perform reset once when power is turned on.
14	DIF	I	Serial interface format input L: reduce the front , H: I ² S
15	TTL	I	Digital input level selecting input L: CMOS level (VA, VD=2.7 to 5.5V) , H: TTL level (VA, VD=4.5 to 5.5V)
16	TST	I	Test pin (internal pull-down) Set to floating state.

7.2.2 DISPLAY

■ PEL1100 (OPERATING 1 ASSY : V701)

- FL Display
- External Dimensions



• Pin Assignment

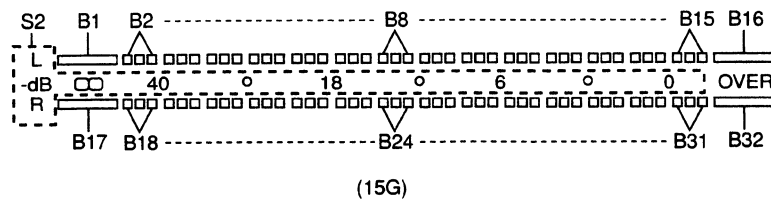
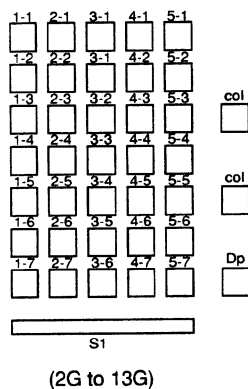
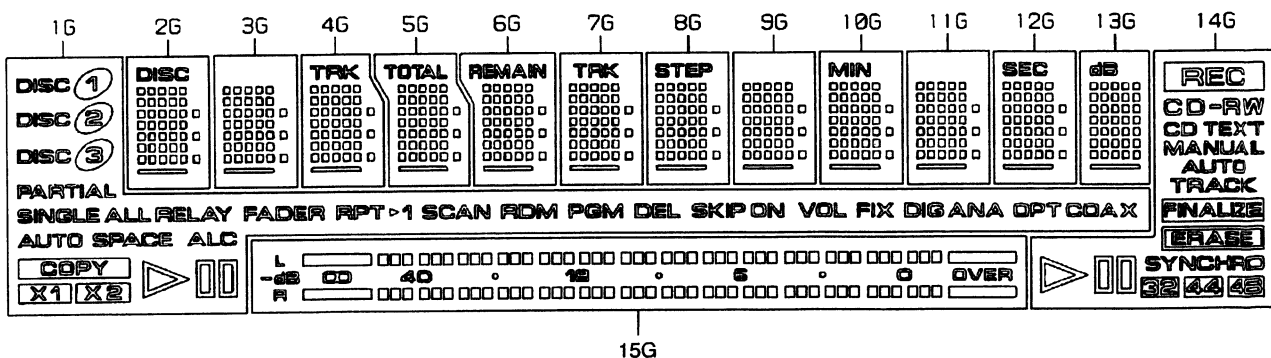
Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Assignment	F1	F1	NP	NP	P39	P38	P37	P36	P35	P34	P33	P32	P31	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20	P19	P18

Pin No.	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
Assignment	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	15G	14G	13G	12G	11G	10G	9G	8G	7G

Pin No.	53	54	55	56	57	58	59	60	61	62	Note (1) F1, F2 : Filament (4) 1G to 15G : Grid (2) NP : No pin (3) DL : Datum Line
Assignment	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2	

Note (1) F1, F2 : Filament
(2) NP : No pin
(3) DL : Datum Line
(4) 1G to 15G : Grid

• Anode and Grid Assignment



PDR-W739

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	14G	15G
P1	00	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	1-1	-	B1
P2	▷	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	2-1	-	B2
P3	X2	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	3-1	-	B3
P4	X1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	4-1	-	B4
P5	COPY	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	5-1	-	B5
P6	ALC	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	-	B6
P7	AUTO SPACE	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	2-2	-	B7
P8	-	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	3-2	-	B8
P9	DISC (1)	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	4-2	-	B9
P10	①	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	5-2	-	B10
P11	DISC (2)	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	-	B11
P12	②	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	-	B12
P13	DISC (3)	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	3-3	-	B13
P14	③	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	4-3	-	B14
P15	-	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	5-3	-	B15
P16	-	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	-	B16
P17	SINGLE	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	-	B17
P18	PARTIAL	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	-	B18
P19	ALL	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	4-4	-	B19
P20	RELAY	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	5-4	REC	B20
P21	FADER	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	CD	B21
P22	RPT	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	-R	B22
P23	▷1	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	3-5	W	B23
P24	SCAN	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	CD TEXT	B24
P25	RDM	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	5-5	MANUAL	B25
P26	PGM	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	1-6	AUTO	B26
P27	DEL	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	2-6	TRACK	B27
P28	SKIP	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	3-6	FINALIZE	B28
P29	ON	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	4-6	PAUSE	B29
P30	VOL	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	5-6	SYNCHRO	B30
P31	FIX	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	48	B31
P32	DIG	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	2-7	44	B32
P33	ANA	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	3-7	32	S2
P34	OPT	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	4-7	00	OVER
P35	COAX	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	5-7	▷	-
P36	-	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	-	-
P37	-	col	col	col	col	col	col	col	col	col	col	col	col	-	-
P38	-	DISC	-	TRK	TOTAL	REMAIN	TRK	STEP	-	MIN	-	SEC	dB	-	-
P39	-	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	-	-

7.3 EXPLANATION

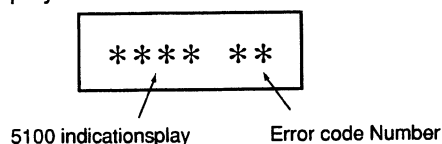
7.3.1 ERROR CODE (CD-R)

Error Code Display for Service

The PDR-W739 can display the error codes for service.

When the STOP key is held down for about 10 seconds in stop state in Normal mode, an FL display as shown below is obtained.

• Display



Right 2 FL digits : Error code for service

The error code for service is displayed as a number (ERROR NUMBER), which follows a message "CHECK DISC" or "CHECK." For details, see the table below.

Error code table for service

Code	Symptom	Contents of Error	Possible Cause	Checkpoints
L*	The unit stops during the tray open/close operation. (CHECK display)	Improper loading	- Defective tray position sensor - Defective loading motor - Improper soldering - Pattern short - Improper power supply	IC451 (M56788FP)
E*	The unit stops when PLAY or REC/PAUSE starts. (CHECK display)	Defective slider The pickup cannot be returned to the specified position.	- Disconnected flexible cable - Defective drive circuit - Abnormal power supply - Abnormal TOC position switch - Improper soldering	S601 (PSG1013) IC451 (M56788FP) IC401 (CXD2585Q)
P*	The unit does not read the inserted disc, and stops. (CHECK DISC display)	Defect in spindle - Disc upside-down. - Dirty or cracked disc - Abnormal disc rotation - No signal obtained from the disc	- Defective spindle motor - Defective spindle drive circuit - Abnormal FG signals - Defective WBL circuit - Defective decoder circuit - Unable to read ATIP or subcode - High error rate	PC651 (NJL5803K-F1) IC451 (M56788FP) IC401 (CXD2585Q)
C*	The unit stops before it enters REC/PAUSE mode.	Defects related to the recording laser power - Dirty or cracked disc - The optimum recording power cannot be obtained. - Trouble in RF detection.	- Defective laser diode - Trouble in RF detection - Defective RFT RFB circuit - Recording power is not sufficient. - Improper soldering, pattern short - Trouble with power supply - Unable to read ATIP or subcode	IC201 (PA9007A) IC101 (AK8563) IC363 (TC7S04F) IC364 (TC7S14F)
F*	The unit stops during playback or recording.	Defective pickup - Unable to focus because of dirt or crack on the inserted disc. - Unable to output the proper laser power	- Defective laser diode - Defective focus drive circuits - Defective pickup - Improper soldering - Pattern short - Trouble of power supply	IC451 (M56788FP) IC401 (CXD2585Q)
A*	The unit stops in a recording-related operation, displaying "CHECK DISC."	- Unable to focus - Stop during recording - The unit stops, being obstructed by a dirt or a crack on the disc.	If any hardware trouble occurs before displaying A* or d*, the unit stops displaying a code other than these codes. Therefore, these service codes are generated only for troubles with the disc.	
d*	The unit stops in a recording related operation, displaying "CHECK DISC." The unit does not read the inserted disc, and stops.			

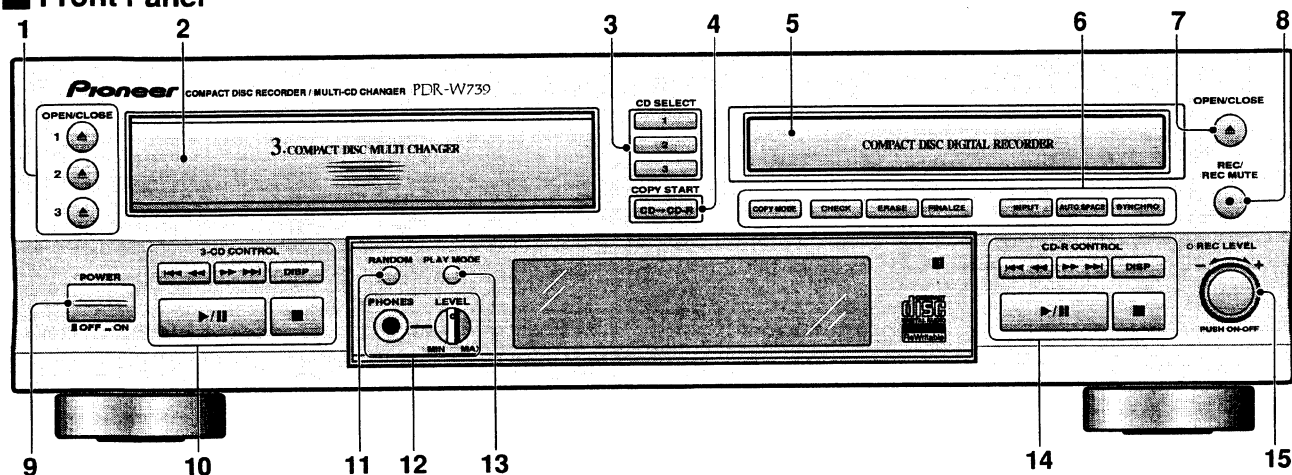
The indication for * shows the mechanism mode listed below.

No.	Mechanism Mode	No.	Mechanism Mode	No.	Mechanism Mode
0	PLAY	5	SETUP	A	REC
1	OPEN	6	TOC READ	B	TOC REC
2	STOP	7	—	C	OPC
3	—	8	SEARCH	D	TOC CHECK
4	—	9	REC/PAUSE	E	PMA, ACTUAL PAUSE REC

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

■ Front Panel



1 OPEN/CLOSE $\triangle$ 1/2/3 – Press to open/close disc tray 1, 2 or 3 from the changer.

2 Changer disc tray

3 CD SELECT 1/2/3 – Press to select disc 1, 2 or 3 from the changer.

4 COPY START CD $\rightarrow$ CD-R – Press to start copying from disc(s)/tracks in the CD changer.

5 CD-R disc tray

6 CD-R functions

COPY MODE – Use to select the copy mode: disc, track or program.

CHECK – Use to check the tracks of a playlist.

ERASE – Use to select the erase mode: last track, multiple tracks, all tracks or TOC.

FINALIZE – Press to start finalizing a disc.

INPUT – Use to select the external input to use: optical, coaxial or analog line in.

AUTO SPACE – Press to switch on/off automatic track spacing when copying a programmed playlist.

SYNCHRO – Use to select the synchro recording mode when recording from an external component.

7 OPEN/CLOSE $\triangle$ – Press to open/close the CD-R disc tray.

8 REC / REC MUTE $\bullet$ – Press to put the recorder into record-pause mode ready for recording. Once recording, use to record blank sections onto a disc.

9 POWER $\square$ OFF / $\triangle$ ON – Press to switch the unit on or off.

10 3-CD Controls

$\lll$ – Press for reverse track skip; press and hold for fast reverse playback.

$\ggg$ – Press for forward track skip; press and hold for fast forward playback.

DISPLAY – Use to switch the CD display mode.

$\triangleright/\parallel$ – Press to play a disc or pause a disc that's already playing (press again to restart playback).

$\blacksquare$ – Press to stop playback.

11 RANDOM – Start random track/disc playback.

12 PHONES / LEVEL – Plug in a pair of headphones. Adjust the volume using the level control.

13 PLAY MODE – Set the play mode to play one disc, all discs in the changer, or all discs in both the changer and CD-R.

14 CD-R Controls

$\lll$ – Press for reverse track skip; press and hold for fast reverse playback.

$\ggg$ – Press for forward track skip; press and hold for fast forward playback.

DISPLAY – Use to switch the CD-R display mode.

$\triangleright/\parallel$ – Press to play a disc or pause a disc that's already playing (press again to restart playback). Also use when recording to start or pause recording.

$\blacksquare$ – Press to stop playback or recording.

15 REC LEVEL – Turn to adjust the recording level.

Push to switch between fixed (LED lit) and variable level recording in digital recording mode, and between automatic recording level (LED lit) and manual level control in analog recording mode.

■ Remote Control Unit

1 Disc select buttons

DISC 1/2/3 – Select discs from the changer.

CD-R – Switch to the CD recorder.

2 Playback control buttons

DISPLAY – Switch the display mode.

■ – Stop playback or recording.

|| – Pause playback or recording.

▶ – Start or resume playback, or start recording from record-pause mode.

◀◀ ▶▶ – Press and hold for fast reverse/forward playback.

◀◀ ▶▶ – Skip back/forward tracks.

3 Numeric and function buttons

Number buttons – Use to select track numbers.

10/0 – Use to input 10 or 0.

>10 – Use to enter track numbers greater than 10.

RANDOM – Start random track/disc playback.

REPEAT – Set the repeat mode.

FADER – Fade in or out during playback or recording (CD-R only).

PROGRAM – Program the playback track order.

CHECK – Check the tracks of a programmed playlist, and monitor the recording level.

CLEAR – Clear the last programmed track in program play mode.

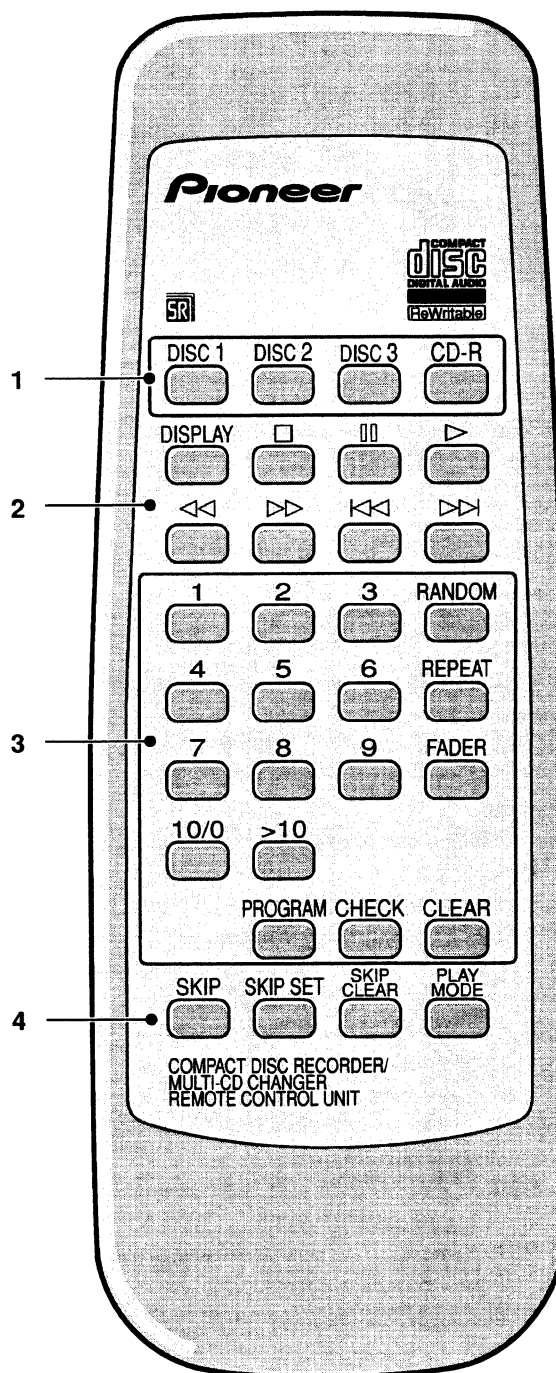
4 Function buttons

SKIP – Change the skip ID mode.

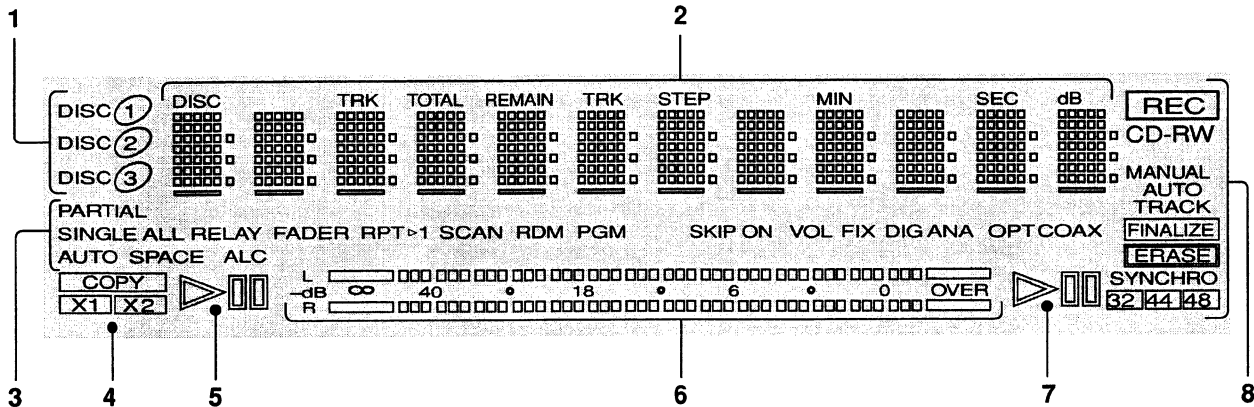
SKIP SET – Set a track skip ID for the current track.

SKIP CLEAR – Clear a skip ID for the current track.

PLAY MODE – Set the play mode to play one disc, all discs in the 3-CD changer, or all discs in both the changer and CD-R.



Display



1 DISC 1/2/3 – Indicates discs loaded.

2 Message/time display

3 Status indicators

PARTIAL – Lights when a partially recorded CD-R or CD-RW is loaded into the 3 CD changer. Random and repeat play functions are not available when this is lit.

SINGLE / ALL / RELAY – Indicates the play mode.

FADER – Lights during fade in or fade out.

RPT / RPT>1 – Lights when disc repeat / track repeat is on.

SCAN – Lights when the recorder is preparing to record.

RDM – Lights in random-play mode.

PGM – Lights in program-play mode.

SKIP – Lights to indicate that a track's skip ID is set. Blinks when clearing a skip ID.

VOL – Lights when the digital volume level is set to something other than 0dB.

FIX – Lights when fixed recording level is on.

DIG / ANA – Indicates whether internal recording is via a digital or analog link.

ANA / OPT / COAX – Indicates the current input: analog, optical or coaxial.

AUTO SPACE – Lights when automatic track spacing is on in program copy mode.

ALC – Lights when automatic analog level control is on.

4 COPY X1 / X2 – Lights when copying disc(s)/ tracks from the CD changer, and indicates whether single or double speed.

5 ▷ – Lights when a disc in the changer is playing or paused.

▢▢ – Lights when a disc in the changer is paused.

6 Level meter

7 ▷ – Lights when the recorder is playing, paused or recording.

▢▢ – Lights when the recorder is paused.

8 CD-R function indicators

REC – Lights when in record or record-pause mode.

CD / CD-R / CD-RW – Indicates the type of disc currently loaded in the recorder.

MANUAL / AUTO TRACK – Indicates manual or automatic track numbering.

FINALIZE – Blinks during auto-finalization recording; lights if a finalized CD-RW disc is loaded.

ERASE – Lights when recorder is erasing a CD-RW disc.

SYNCHRO – Lights during internal recording and during synchro recording from an external component.

32 / 44 / 48 – Indicates the sampling rate of the incoming digital signal.

8.2 SPECIFICATIONS

1. General

Model Compact disc audio system
Applicable discs CDs, CD-Rs and CD-RWs
Power supply AC 120 V, 60 Hz
(U.S./Canadian models)
AC 230 V, 50/60 Hz (U.K. model)
Power consumption 28 W (U.S./Canadian models)
26 W (U.K. model)
Operating temperature +5 °C to +35 °C
(+41 °F to +95 °F)
Weight (without package) 7.0 kg (15 lb, 7 oz)
Max. dimensions 420 (W) x 128 (H) x 385 (D) mm
16-9/16 (W) x 5-1/16 (H) x 15-3/16 (D) in.

2. Audio unit

2. Audio unit

Frequency characteristics 2 Hz to 20 kHz
Playback S/N 102 dB (EIAJ) (U.S./Canadian models)
105 dB (EIAJ) (U.K. model)
Playback dynamic range 95 dB (EIAJ)
(U.S./Canadian models)
96 dB (EIAJ) (U.K. model)
Playback total harmonic distortion 0.0035 % (EIAJ)
(U.S./Canadian models)
0.003 % (EIAJ) (U.K. model)
Playback channel separation 96 dB (EIAJ)
Recording S/N 90 dB (EIAJ)
Recording dynamic range 90 dB (EIAJ)
Recording total harmonic distortion 0.005 %
Output voltage 2.0 V
Wow-flutter Less than measurement limit
(± 0.001 % W.PEAK) (EIAJ))
Number of channels 2 channels (stereo)
Coaxial output 0.5 Vpp ± 20 % (75 Ω)
Optical output . -15 to -21 dBm (wavelength: 660 nm)
Frequency deflection: Level 2 (standard mode)

*Recording specification values are for the LINE input (analog)

3. Input jacks

- Optical digital input jack
- Coaxial digital input jack
- Audio LINE input jacks
- Control IN jack

4. Output jacks

Optical digital output jack
Coaxial digital output jack
Audio LINE output jack

5. Accessories

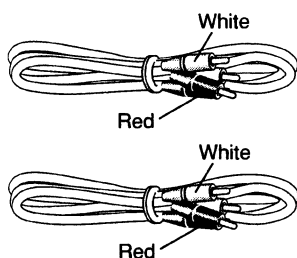
Remote control unit	1
Size AA/R6P dry cell batteries	2
Stereo audio cord	2
AC power cord	1
Operating instructions	1
Warranty card	1

NOTE:

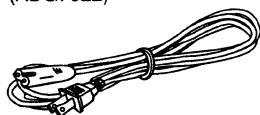
NOTE:
The specifications and design of this product are subject to change without notice, due to improvements.

■ Accessories

Two Sets of Audio Cords
(PDE1036)(L = 1 m)



AC Power Cord (KUXJ/CA Type)
(ADG7022)



AC Power Cord (NVXJ Type)
(ADG1156)



AC Power Cord (NYXJ Type)
(ADG1154)



Two "AA" size R6P Batteries
(VEM-013)



Remote Control Unit (PWW1164)

